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ANNUAL REPORT OF THE CHIEF OF ENGINEERS ON CIVIL WORKS ACTIVITIES

DEPARTMENT OF THE ARMY/CORPS OF ENGINEERS

Extract

REPORTS OF THE:

LOWER MISSISSIPPI VALLEY DIVISION & MISSISSIPPI RIVER COMMISSION

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The Corps "COVERS" the seasons

1. Spring - Ouachita-Black Rivers, Monroe, LA,—Vicksburg District
2. Summer - Tchefuncte River, St. Tammany Parish, LA,—New Orleans District
3. Autumn - Mud Island, Memphis, TN, —Memphis District
4. Winter - Kaskaskia Lock and Dam, Chester, IL,—St. Louis District

EXTRACT REPORTS OF THE:

LOWER MISSISSIPPI VALLEY DIVISION
P. O. Box 80, Vicksburg, Miss. 39180

NEW ORLEANS DISTRICT P. O. Box 60267 New Orleans, La. 70160	CHAPTER 11
VICKSBURG DISTRICT P. O. Box 60 Vicksburg, Miss. 39180	CHAPTER 12
MEMPHIS DISTRICT 668 Federal Office Building Memphis, Tenn. 38103	CHAPTER 13
ST. LOUIS DISTRICT 210 Tucker Boulevard, North St. Louis, Mo. 63101	CHAPTER 14

MISSISSIPPI RIVER COMMISSION

MISSISSIPPI RIVER COMMISSION P. O. Box 80 Vicksburg, Miss. 39180	CHAPTER 42

NEW ORLEANS, LA, DISTRICT

District comprises a portion of Louisiana, including drainage area of Red River south of Fulton, AR, embraced in drainage basins tributary to Mississippi River and Gulf of Mexico, except Mississippi River above mile 325.5 above Head of Passes, drainage area of Ouachita-Black River Basin, and small eastern and western portions of Louisiana tributary to Pearl River and Sabine River and Lake.

It includes sections of the Gulf Intracoastal Waterway from Lake Borgne Light 29 at the mouth of Pearl River to Sabine River, and the Passes of the Mississippi River. It exercises jurisdiction over flood control work on Mississippi River from mile 325.5 AHP to Gulf of Mexico; on Red River including its south bank levees and tributaries from Index, AR, to its junction with Old River and Atchafalaya River; Atchafalaya River; and in Atchafalaya Basin; and maintenance of project navigation channel of Mississippi River below mile 325.5 AHP, under supervision of President, Mississippi River Commission (MRC), and Division Engineer, Lower Mississippi Valley Division.

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Navigation

1. AQUATIC PLANT CONTROL PROGRAM, LA

Location. Lakes and streams in State of Louisiana.

Existing project. Provides for control and progressive eradication of water-hyacinth, alligatorweed, and other obnoxious aquatic plant growth from navigable waters, tributary streams, connecting channels, and other allied waters in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas, in combined interests of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes, including continued research for development of most effective and economic control measures.

The modification of the 1965 Act provides for comprehensive program for control and progressive eradication of water-hyacinth, alligatorweed, Eurasian water milfoil, and other obnoxious plant growths from navigable waterways, tributary streams, connecting channels, and other allied waters of the United States, in combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes, including continued research for development of most effective and economic control measures. Research and planning costs undertaken pursuant to 1965 Act shall be borne fully by the United States and shall not be included in costs to be shared by local interests.

Local cooperation. Local interests must hold and save the United States free from claims and participate in project to extent of 30 percent of cost of operations. State of Louisiana, Office of Public Works, and Louisiana Department of Wild Life and Fisheries furnished a joint assurance of local cooperation, which was approved Apr. 29 and accepted May 4, 1959. Under provisions of continuing contract, local agencies are performing work in kind, exceeding 30 percent of cost of program.

Operations and results during fiscal year. Combined efforts by Corps of Engineers crews and crews of the State of Louisiana, Department of Wild Life and Fisheries, continued against aquatic vegetation problems throughout the State. Water-hyacinth control maintenance requires work in all areas, and water-hyacinth persists as the most serious aquatic pest. Control maintenance by the Corps of cleared areas continued in the Mermentau River, Bayou Lacassine, Bayou Queue de Tortue, in the Bayou Teche Basin south of U.S. Highway 190, including the lakes west of the Atchafalaya Floodway, in the feeder areas of the Port Allen-Morgan City Route of the Gulf Intracoastal Waterway, and in the feeder areas to the Gulf Intracoastal Waterway in Coastal Louisiana. Louisiana Department of Wild Life and Fisheries crews continued maintenance efforts in the major lakes and streams of north Louisiana, in the Atchafalaya Floodway, in the Louisiana portion of the Toledo Bend Reservoir, and the Pearl River Basin within Louisiana. During the fiscal year, 66,400 acres of water-hyacinths were destroyed in the State of Louisiana under this funding. Louisiana Department of Wild Life and Fisheries crews destroyed 48,447 acres and Corps of Engineers crews destroyed 17,953 acres primarily by herbicide treatment. The alligatorweed flea beetle *(Agasicles hygrophila)* population has increased to the point that they are again exercising significant control of this plant in many areas of the state. In addition, the stem boring moth *(Vogtia malloi)* has spread to such an extent that it is found associated with alligatorweed in all locations. The water-hyacinth weevils *(Neochetina eichhorniae and Neochetina bruchi)* have been spread throughout all areas of the state that water-hyacinth infest and adult feeding scars are more prevalent everywhere. Submersed weed problems in Toledo Bend Reservoir have reached serious proportions and Caddo Lake is also experiencing interference with boating and fishing. *Hydrilla verticillata*, an introduced exotic submersed weed species, continues to spread along the Gulf Intracoastal Waterway and poses a threat to water-related activities.

Condition as of Sep. 30. Operations under 1958 River and Harbor Act, initiated May 1959, are complete. Operations under 1965 Act were initiated in FY 1968. Waterways are being cleared, then maintained as required.

2. ATCHAFALAYA RIVER AND BAYOUS CHENE, BOEUF, AND BLACK, LA.

Location. The improvement is located in the parishes of Assumption, Terrebonne, and St. Mary, LA, in the vicinity of Morgan City, along Bayous Chene, Boeuf, and Black, and the Lower Atchafalaya River to the Gulf of Mexico. (Refer to MRC alluvial maps, Morgan City, Belle Isle, and Point au Fer quadrangles, NOAA Coast Charts Nos. 11351 and 11355 of Intracoastal Waterway, and Coast Chart No. 11354 for the Atchafalaya River system.)

Existing project. Provides for enlargement and extension of project, Atchafalaya River, Morgan City to the Gulf of Mexico, LA, to obtain navigation channels 20 feet deep over a bottom width of 400 feet from vicinity of U.S. Highway 90 crossing over Bayou Boeuf to the Gulf of Mexico via Bayou Boeuf, Gulf Intracoastal Waterway, Bayou Chene, Avoca Island Cutoff, the lower Atchafalaya River, Atchafalaya Bay to the Gulf of Mexico, and from near U.S. Highway 90 to Bayou Chene via Bayou Black and the Gulf Intracoastal Waterway. The 400-foot channel extends into the Gulf of Mexico to the 20-foot contour, and the width in Bayou Boeuf would be reduced to 300 feet where necessary because of industrial development on both sides of the bayou. Estimated cost for new work (October 1983) is $30,850,000 Federal and $2,000,000 non-Federal, including $1,000,000 contributed funds. In addition, Coast Guard is to provide navigation aids at an estimated cost of $220,000.

Local cooperation. For details see page 11-3, Annual Report for FY 1980.

Assuring Agency: Morgan City Harbor and Terminal District.

Basic assurance was approved on behalf of United States on Dec. 10, 1973, and amended assurance containing the applicable provisions of Public Law 91-646 and Public Law 91-611 was approved on behalf of United States on Feb. 25, 1974.

In an effort to expedite the project, local interests have accomplished the surveys, soil borings, testing, and the basic mapping at an estimated cost of $250,000, for which they will not be reimbursed. As a convenience to local interests and to avoid confusion in 25 percent and 75 percent acquisition cost, the New Orleans District agreed to acquire all lands, with local interests reimbursing the Government for their 25 percent portion. An escrow agreement has been executed between the local interests and the Government, whereby, they will advance funds in a sufficient amount to provide for their portion of the acquisition and diking cost. To date original advance of $518,000 has been withdrawn; however, local interests will be required to deposit in escrow an additional $456,000. Local interests have asked that the Government invoke the navigation servitude under the Commerce Clause of the Constitution, thereby requiring pipeline owners to relocate their pipeline at no expense to local interests or the Government.

Terminal facilities. Two large and three small public wharves at Morgan City are open for use by all without charge. In addition, there are numerous privately owned facilities on both banks of the lower Atchafalaya River in Morgan City and Berwick, LA, and along Bayou Boeuf and the Gulf Intracoastal Waterway. Fabrication and repair facilities are located on Bayous Boeuf and Black. Adequate acreage is available for expansion of existing terminals and construction of new terminals along Bayous Chene, Boeuf, and Black, and the Gulf Intracoastal Waterway. Public and private terminals in the project area are adequately connected with rail, water, and highway transportation facilities. No additional public wharves are required.

Operations and results during fiscal year. Contract for maintenance dredging of the bar and bar channel, from stations 25+00 to 190+00, commenced Jun. 26, 1983, and is 83 percent complete with the removal of 9,500,000 cubic yards of material.

Condition as of Sep. 30. Construction was initiated on the Atchafalaya Bay and gulf reach in April 1974. The project is 100 percent complete.

3. BARATARIA BAY WATERWAY, LA

Location. In Jefferson Parish, LA, and extends about 37 miles southerly from junction of Gulf Intracoastal Waterway and Bayou Barataria near Lafitte Post Office. From its origin it extends southerly through Bay Barataria, Bayou Dupont, a land cut (known as Dupre Cut) through marsh area, Bayou Cutler, Bayou St. Denis, and Barataria Bay to east end of Bayou Rigaud. At its southerly terminus it also connects with Barataria Pass and through that pass with the Gulf of Mexico. (Refer to NOAA Coast Charts Nos. 11352, 11340, and 11535 and Geological Survey quadrangles, Barataria, Bay Dogris, Wilkinson Bay, and Barataria Pass.)

Previous project. For details see page 562 of Annual Report for 1963.

Existing project. A channel about 37 miles long with a 12-foot depth and 125-foot width from its beginning at Gulf Intracoastal Waterway to Grand Isle, LA, following route of previous project to mile 15.5 in Bayou St. Denis; thence by a relocated channel along western shore of Barataria Bay and through Barataria Pass to 12-foot-depth contour in the gulf, with an extension of project to include westerly 4.3 miles of Bayou Rigaud. Normal range of tide is 30 inches at mouth and 6 inches at head. Elevation of water surface near mouth, due to hurricanes, has been over 6 feet. Existing project was completed at a cost of $1,499,648.

Local cooperation. Fully complied with. For details see page 563, Annual Report FY 1963.

Terminal facilities. Six privately-owned wharves at Lafitte; three privately owned facilities at Grand Isle; and wharfage in Bayou Rigaud at Grand Isle constructed by shrimping industry are available to all boats without charge. About 7 miles below Lafitte there is a large oil terminal for transferring production of Lafitte field to barges. Adjacent to Bayou Barataria and along Bayou Rigaud adequate sites are available for future use.

Operations and results during fiscal year. Hired labor continued condition and operation studies, stream gaging, and water quality studies.

Maintenance by contract: Dredging under two contracts included removing 674,509 cubic yards from mile 14.5 to mile 2.5 and 1,075,000 cubic yards from Bayou Rigaud and bar channel.

Condition as of Sep. 30. Construction was initiated in May 1960 and completed in November 1963.

4. BAYOU LAFOURCHE AND LAFOURCHE-JUMP WATERWAY, LA

Location. Prior to 1902, Bayou Lafourche was an outlet of Mississippi River, its head being at Donaldsonville, LA, 80 miles above New Orleans. It flows southerly 107 miles to Gulf of Mexico. (Refer to NOAA Coast Charts Nos. 11340 and 11357; MRC alluvial valley maps; Donaldsonville, White Castle, Napoleonville, Thibodaux, and Lac des Allemands quadrangles; and Geological Survey maps, Houma, Cutoff, Lake Felicity, Mink Bayou, Leeville, and Belle Pass quadrangles.)

Previous projects. For details see page 564 of 1963 Annual Report.

Existing project. Provides for permanent closure of head of bayou without a lock, a channel 6 feet deep and 60 feet wide from Canal Boulevard in Thibodaux to

Lockport, and from Larose to Gulf of Mexico with a jettied entrance at Belle Pass, and the closure of Pass Fourchon. These improvements are about 50.5 miles long, and the modification of Jul. 14, 1960, provides for an additional 66 miles of improvement as follows: a 12- by 125-foot channel, extending from Gulf Intracoastal Waterway at mile 37.2 west of Harvey Lock to enter Bayou Lafourche below highway bridge at Leeville at about mile 12; a 12- by 125-foot channel in Bayou Lafourche from point of junction with proposed 12- by 125-foot channel to 12-foot-depth contour in gulf; modification and extension of existing jetties from 6-by 12-foot contour, if found advisable to reduce maintenance dredging in the gulf; and a channel 9 by 100 feet in Bayou Lafourche from Leeville to vicinity of lower limits of Golden Meadow; and a 12- by 125-foot channel from Bayou Lafourche at Leeville from point where auxiliary channel connects with Bayou Lafourche through Southwestern Louisiana Canal to and through Bayou Rigaud to connect with enlargement of Bayou Rigaud recommended under project "Barataria Bay Waterway, LA." Normal range of tide is 10 inches at mouth and 3 inches at head; from severe rains, 3 to 10 feet at head; from hurricanes, up to 10 feet at mouth. Estimated cost for new work (October 1980) is $10,500,000 Federal and $6,050,000 non-Federal. In addition, Coast Guard is to provide navigation aids at an estimated cost of $43,000. Excavation of a channel 6 feet deep and 60 feet wide from Thibodaux to Gulf Intracoastal Waterway at Lockport is considered inactive and excluded from foregoing cost estimate. Estimated cost of this portion (July 1974) is $733,000.

Local cooperation. Original assurances received and accepted on all items of work in the project. Provisions of Public Law 91-611 are not applicable; however, provisions of Public Law 91-646 are applicable. Supplemental assurances covering Public Law 91-646 have been executed by the Jefferson Parish Council and Lafourche Parish Police Jury; however, the Louisiana Office of Public Works has not executed supplemental assurances.

Golden Meadow to gulf: Local agency has acquired all rights-of-way and furnished rights-of-entry.

Leeville to Grand Isle: No action is apparent on this stretch by either the Lafourche Parish Police Jury, the Jefferson Parish Council, the local assurers, or the State of Louisiana, Office of Public Works. Rights-of-way are not available due to multiplicity and other complications of ownership.

The "Jump" portion of the project was classified as inactive on May 4, 1977. The Jefferson Parish Council and the Lafourche Parish Police Jury were requested to provide information as to whether they still favor construction on this part. If reactivation is favored, it should be with the understanding that they would have to provide required rights-of-way when requested. The Greater Lafourche Port Commission stated that they may provide assurances for that portion of the project located in Lafourche Parish. These assurances were forwarded to the Greater Lafourche Port Commission on Jan 22, 1979. On Mar. 9. 1979, we requested information as to the status of their execution of the assurances. The Greater Lafourche Port Commission appears to be reluctant to execute the required assurances.

Terminal facilities. There are numerous private warehouses, wharves, and stiff-leg derricks for handling cane along bayou. At Lockport, Barker Barge Line has a barge wharf with covered shed, and Southern Pacific Railroad maintains a large wharf with covered shed. At Golden Meadow each of the seafood canneries has docking facilities suitable for its needs. Four oil companies have docks at Leeville for transferring production of Leeville oil fields to barges. Facilities are considered adequate for existing commerce.

Operations and results during fiscal year. New work by hired labor consisted of engineering studies.

Condition as of Sep. 30. Construction of existing projects was initiated in FY 1939 and is 10 percent complete. Dredging between Larose, LA, and Gulf of Mexico was completed in 1939, and that segment between Lockport and Napoleonville, LA, is in an inactive status due to lack of right-of-way and spoil area. Jetties at mouth of Belle Pass were completed in 1939, and later damaged by storm action, which required placement of additional stone adjacent to both sides of steel sheet pile jetties in 1940, and repair and extension of jetties in 1941. During FY 1948, stone jetties were repaired and extended inland about 700 feet from shoreline; and steel sheet pile section was strengthened for about 250 feet gulfward of stone jetties, by placement of stone on both gulf and bayou sides. On May 31, 1949, an automatic tide gage for recording hurricane and storm tides was installed. Modification of Jul. 14, 1960, was initiated in February 1963 and is 10 percent complete, with 12- by 125-foot channel completed in September 1963 from Leeville to 12-foot contour in Gulf of Mexico, the 9- by 100-foot channel completed in August 1966 from Golden Meadow to Leeville, and the 9- by 100-foot channel from Golden Meadow to Leeville completed in August 1966.

The Greater Lafourche Port Commission requested, and was granted, a permit to dredge a new channel 20 by 300 feet wide west of the existing channel from mile 0.76 in Bayou Lafourche to the 20-foot depth in the gulf, and to close the existing jettied channel after completion of the new channel. This work was completed in March 1968 and the Port Commission must maintain the channel at no less than 12 by 125 feet.

5. BAYOU TECHE AND VERMILION RIVER, LA

Location. Bayou Teche has its source in Bayou Courtableau, in St. Landry Parish, and flows southeasterly 125 miles to its confluence with lower Atchafalaya River, about 10.5 miles above Morgan City, LA Vermilion River, also called Bayou Vermilion, is formed by junction of Bayous Fusilier and Bourbeau, west of Arnaudville, LA, and flows southwesterly 72 miles to western end of Vermilion Bay. Bayou Teche is connected with Vermilion River by Bayou Fusilier at Arnaudville;

and by Ruth Canal, an artificial, privately-owned, nonnavigable waterway, constructed for diversion of water from Bayou Teche to Vermilion River for rice irrigation. (Refer to NOAA Coast Charts No. 11340 and 11349; MRC alluvial valley maps; and Geological Survey maps.)

Existing project. A navigable channel 51 miles long and 8 by 80 feet from 8-foot-depth contour in Vermilion Bay to Gulf Intracoastal Waterway, thence 9 by 100 feet to head of navigation (mile 52) at Lafayette, LA (fixed bridge at Louisiana State Highway 729, formerly State Highway 1092), with additional enlargement below Abbeville necessary to provide adequate capacity for floodflows; improvement of Vermilion River from Lafayette, LA, mile 52, to its junction with lower end of Ruth Canal, mile 57.2, by both widening and deepening to provide a channel 6 by 60 feet, mean gulf level, in order to provide adequate capacity for flood discharges from upper Vermilion River Basin, and also serve irrigation interests by conducting flow of Ruth Canal to lower Vermilion River during rice season. Clearing and enlargement of channel from Ruth Canal to Bayou Fusilier by both widening and deepening to provide a cross section about 50 percent larger than that of existing channel. This improvement is required in interest of flood control in upper Vermilion Basin. Enlargement of channel of Bayou Teche from its head in Bayou Courtableau to a point about 21 miles downstream thereof, by widening and deepening to provide a channel of 35-foot bottom width at minus 2 and minus 3, mean gulf level. Increasing height of Keystone Dam by 3 feet (later revised to 1.5 feet) by installation of a fixed crest spillway. (See individual report for Bayou Teche, LA.) In connection with these improvements, the project also provides for replacement of an existing pontoon bridge at Woodlawn over Vermilion River with a vertical-lift structure and lengthening and strengthening approaches to five existing movable bridges over Vermilion River below Lafayette, LA, located at Louisiana State Highway 43 at Perry, LA; Southern Pacific Railroad at Abbeville, LA; Louisiana State Highway 25 at Abbevile, LA; Milton, LA; and U.S. Highway 90 (Pinhook Bridge) just below Lafayette, LA. Similar work on existing fixed spans over nonnavigable streams is provided for on 11 bridges over Bayou Vermilion above Lafayette, LA, and three over upper Bayou Teche. New work completed in 1957 cost $2,891,922. Project was reclassified "Operation and Maintenance, General" under category, "Navigation (Locks, Dams, Reservoirs, and Canals)" by authority of Chief of Engineers, Apr. 23, 1956.

Local cooperation. Fully complied with. For details see page 687, Annual Report FY 1944.

Terminal facilities. Privately-owned, publicly-operated terminals are located on Bayou Teche at Franklin, Jeanerette, New Iberia, and Arnaudville. Other privately-owned boat landings are located at frequent intervals throughout the bayou and public landing is permitted without charge. Facilities on the Vermilion River include a public wharf and two privately-owned barge landing piers at Abbeville equipped for barge truck transfers of general commodities, seven landings for the transfer of petroleum products, and several private landings all along the waterway suitable for small craft. The Vermilion Sugar Company maintains a barge slip at its mill. Present facilities are adequate for existing commerce and there is ample space available for construction of more wharfage.

Operations and results during fiscal year. Hired labor forces continued condition and operation studies, stream gaging, and snagging and clearing above Lafayette, LA.

Condition as of Sep. 30. Construction commenced March 1944 and was completed March 1957, when Keystone Dam was raised to provide an increase of 1.5 feet in pool elevation, in order to increase flow through Ruth Canal into Vermilion River. This work was accomplished under navigation improvement "Bayou Teche, LA."

6. BAYOU TECHE, LA.

Location. Has its source in Bayou Courtableau, in St. Landry Parish, flow southeasterly for 125 miles, and joins lower Atchafalaya River about 10.5 miles above Morgan City, LA (Refer to NOAA Sailing Chart No. 11340, and MRC alluvial valley maps, and Palmetto, Opelousas, Carencro, Arnaudville, St. Martinville, Loreauville, Derouen, Jeanerette, Foster, and Belle Isle quadrangles.)

Previous projects. For details see page 569, 1963 Annual Report.

Existing project. Provides for a channel 8 feet deep and 80 feet wide on the bottom from mouth of stream to New Iberia, LA, mile 54.5, thence 6 feet deep and 60 feet wide on the bottom to Keystone Lock, 18 miles, and thence 6 feet deep and 50 feet wide on the bottom from Keystone Lock to Arnaudville, LA, 34 miles, to be secured by dredging, removing snags and overhanging trees, and construction of a lock and dam and regulating works. (See Table 11-C on Keystone Lock.)

Raising pool level by 1.5 feet above Keystone Dam by installation of a fixed crest spillway on dam is provided for in flood control project for Bayou Teche and Vermilion River, LA. Under project, flood control, Mississippi River and tributaries, East and West Calumet floodgates, with a width of 45 feet and sill elevation of minus 9.02 feet, mean low gulf level, were constructed in Bayou Teche at east and west approaches to Wax Lake Outlet from February 1949 to September 1950, and a lock was constructed in lower Atchafalaya River in vicinity of Berwick, LA, from November 1948 to September 1951. (See Table 11-C on Berwick Lock.)

Normal range of tide is 10 inches at mouth; 4 inches just below Keystone Lock; extreme, 12 inches at mouth; 6 inches just below Keystone Lock; and zero above lock; due to freshets 4 to 5 feet at mouth; 12 to 15 feet just below Keystone Lock, and 2 to 7 feet above Keystone Lock.

Estimated cost for new work (1954) is $1,080,000, exclusive of amount expended on previous projects and estimated cost (1954), $371,400 for widening and deepening channel between miles 50.06 and 72, Keystone Lock and Dam, which is inactive.

Local cooperation. Fully complied with. For details see page 687, Annual Report FY 1944.

Terminal facilities. Small, privately-owned wharves are available at all towns along bayou; public landing is permitted without charge. There are privately-owned terminals for transferring crude oil to barges near towns of Charenton, Jeanerette, Oliver, and St. Martinville. Facilities considered adequate for existing commerce.

Operations and results during fiscal year. Hired labor continued operation and maintenance of Keystone Lock and facilities, condition and operation studies, and stream gaging.

Condition as of Sep. 30. Construction was initiated in 1891 and completed July 1928, except widening channel to bottom width of 80 feet from mile 50.06 to New Iberia, and to bottom width of 60 feet from New Iberia to Keystone Lock, which is inactive. For further details see Annual Report for 1966.

7. CALCASIEU RIVER AND PASS, LA

Location. Calcasieu River has its source in southwestern Louisiana, and flows southerly to the gulf. About 25 miles from the gulf it debouches into Calcasieu Lake, which is about 18 miles long. Connection between lake and gulf, about 7 miles long, is known as Calcasieu Pass. (See Geological Survey maps, Edna, Thompson Bluff, Hecker, Moss Bluff, Lake Charles, West Lake, Moss Lake, Hackberry, Sweet Lake, Brown's Lake, Holly Beach, Grand Bayou, and Cameron quadrangles; and NOAA Small-Craft Charts Nos. 11341 and 11348 of Intracoastal Waterway and NOAA Small-Craft Chart No. 11347 of Calcasieu River and Lake.)

Previous project. For details see 1936 and 1938 Annual Reports, pages 719 and 819, respectively.

Existing project. Provides for a channel 40 by 400 feet (35.9 miles long) from Lake Charles to sea end of jetties in Gulf of Mexico; an approach channel 42 by 800 feet from sea end of jetties to 42 feet deep in the gulf; extension of 35- by 250-foot channel from its present upsteam limit at mile 34 to vicinity of U.S. Highway 90 Bridge (mile 36.2); a 750- by 1,000-foot turning basin at upper end with a 35-foot depth; improvement of river from Lake Charles to Phillips Bluff (52.6 miles) by removing logs, snags, overhanging trees, and by dredging; maintenance of existing 12- by 200-foot channel in old channel of Calcasieu River at Cameron, LA, which connects with project at mile 2.25; and reconstruction and extension of existing jetties initially to seaward end of east jetty, and further extension to 15-foot-depth contour if found advisable to reduce maintenance dredging costs. Improvement is 113.6 miles long. Normal range of tide is 10 inches at mouth, diminishing to zero at Phillips Bluff; extremes range from 14 inches to zero.

Estimated cost for new work (July 1975) is $19,518,000 Federal, and $1,409,000 non-Federal. In addition, Coast Guard is to provide navigation aids at an estimated cost of $404,700.

Local cooperation. Local interest furnished all rights-of-way and spoil-disposal areas for completed features. For construction and future maintenance of modification authorized by 1960 River and Harbor Act, local interests must furnish lands, rights-of-ways, and spoil-disposal areas; alter pipelines, cables, wharves, oil wells, and any other facilities and hold and save the United States free from damages. Assurances were accepted and right-of-entry was furnished for the modification. The local agency is presently finalizing transfer to the United States of the few remaining tracts with acceptable title evidence.

Assurance Agency: Lake Charles Harbor and Terminal District.

Terminal facilities. Facilities at Port of Lake Charles are owned by Lake Charles Harbor and Terminal District and operated by a board of commissioners. In addition to municipally-owned terminals, there are several privately-owned and operated wharf structures on existing ship channel. (For further details, see Port Series No. 19, vol. 1, "Port St. Joe, FL, Pensacola, FL, Baton Rouge, LA, Panama City, FL, Pascagoula, MS, Lake Charles, LA, Gulfport, MS," revised 1957, and Folio of Navigation Maps Intracoastal Waterway, New Orleans to Port Arthur, 1968, 13th edition, published by the MRC.)

Operations and results during fiscal year. Hired labor continued operation and maintenance of the saltwater barrier, stream gaging, and condition and operation studies.

Maintenance by contract: Dredging under two contracts included removing 7,720,964 cubic yards from mile 1.5 to mile -10 and 9,894,523 cubic yards of material from mile 22.7 to mile 5.0.

Condition as of Sep. 30. Construction under the existing project was initiated in FY 1939 and completed October 1968, except extension of the jetties to 15-foot-depth contour, which has been deferred until found advisable to accomplish same. Construction of modifications, described in Table 11-B, was as follows: Work authorized by Mar. 2, 1945, R&H Act was initiated in September 1948 and completed in June 1949; Work authorized by Jul. 24, 1946, FC Act was initiated in September 1948 and completed in April 1953; and Work authorized by Jul. 14, 1960, R&H Act was initiated in April 1962 and completed in October 1968. A turning basin or ship anchorage for vessels using waterway was constructed from April to June 1952, between St. Johns Island and vicinity of Cameron, LA, about 1.1 miles. Calcasieu Pass jetties, initiated under previous project and completed in May 1942, extended to 10-foot-depth contour. East jetty about 8,620 feet long, was built to about 6 feet above mean low gulf and extends seaward from existing gulf shoreline for 6,820 feet. West jetty, 8,050 feet long was built to about 4 feet above mean low gulf and extends seaward from existing gulf shoreline for 6,795 feet.

8. FRESHWATER BAYOU, LA

Location. In Vermilion Parish, LA, between Atchafalaya and Calcasieu Rivers, from Gulf Intracoastal Waterway, mile 161.2 west of Harvey Lock, to 12-foot contour in Gulf of Mexico near Freshwater Bayou. Waterway is routed 22.6 miles along Schooner Bayou Cutoff, Schooner Bayou, Six Mile Canal, Belle Isle Canal, and Freshwater Bayou. (Refer to NOAA Small-Craft Chart No. 11350 of Intracoastal Waterway.)

Existing project. Provides for dredging a new 12-by 125-foot channel from Gulf Intracoastal Waterway, mile 161.2 west of Harvey Lock, to 12-foot contour in Gulf of Mexico near Freshwater Bayou, construction of an 84- by 600-foot lock with a depth of 16 feet over sill near Gulf of Mexico; and construction of jetties from shoreline to 6-foot-depth contour in Gulf of Mexico, if maintenance dredging of channel without jetties proves to be more expensive than construction and maintenance of jetties. Until such determination has been made, offshore channel should be dredged and maintained to provide a 12- by 250-foot channel. In event jetties are provided, offshore section should then be maintained to 12- by 125-foot project in jettied reach, and 250 feet beyond. Existing project was completed in 1968, except for construction of jetties at a later date, if necessary. Estimated cost of construction of jetties (July 1971) is $3,118,100. Estimated total Federal cost is $10,400,000 (1971) and the total non-Federal cost for the existing project is $171,000. In addition, the Coast Guard is to provide navigational aids at an estimated cost of $19,100.

Local cooperation. Fully complied with. For details see page 649, Annual Report FY 1962.

Terminal facilities. Extensive public and private terminal and transfer facilities do not exist in area, and none would be required for improved channel. Private terminals exist at site of oil and gas operations in area and sufficient private and public wharf facilties are along Gulf Intracoastal Waterway and its connecting waterways. Sites are available along proposed improvement for construction of any additional private and public terminals that might be required for utilization of channel.

Operations and results during fiscal year. Maintenance by hired labor consisted of operation and ordinary repairs to lock, condition and operation studies, reconnaissance surveys, water quality studies, and channel patrol.

Conditions as of Sep. 30. Construction was initiated April 1963 and completed August 1968, except for construction of jetties at a later date, if required to reduce the cost of maintenance dredging.

9. GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL, AND MEXICAN BORDER (NEW ORLEANS DIST.)

Location. Section of Gulf Intracoastal Waterway within New Orleans District extends from Lake Borgne Light 29 near mouth of Rigolets, to Sabine River, LA, and TX. Section from Lake Borgne Light 29 to Mississippi River follows Rigolets and Lake Pontchartrain to lake end of State-owned Inner Harbor Navigation Canal, thence via this canal to Mississippi River, a distance of 40.5 miles. Public Law 675, 77th Cong., modified project to provide for a land cut through marsh from Rigolets to a point on Inner Harbor Navigation Canal about 22.5 miles from Mississippi River, eliminating passage through Lake Pontchartrain and five drawbridges, a distance of 30.8 miles to Mississippi River by this route. From Inner Harbor Navigation Canal to entrance of Harvey Lock, route follows Mississippi River for 5.5 miles. Section from Mississippi River to Atchafalaya River, LA, leaves Mississippi River through Harvey Lock about 3.3 miles above Canal Street and follows Harvey Canal No. 1 and Bayou Barataria to Bayou Villars, a land cut south of Lake Salvador to Harvey Canal No. 2, Harvey Canal No. 2 to Larose, LA, and a land cut to Houma, LA, thence over a land cut south of Bayous Black and Cocodrie, thence through Bayou Cocodrie and a land cut to Bayou Black; thence through Bayous Black, Chene, and Boeuf to Atchafalaya River, about 0.5 mile south of Morgan City, LA, a total of 95.5 miles. Alternative connection with Mississippi River near Algiers, LA, about 10.3 miles below Harvey Lock, consisting of a lock and land cut about 9 miles long intersecting Intracoastal Waterway at about mile 6 is complete. An alternative route from Mississippi River follows Bayou Plaquemine passing Indian Village, LA, and continuing on through lower Grand River to and through a lock at Bayou Sorrel in East Atchafalaya Basin protection levee, thence through levee borrow pit to Berwick Bay; and thence through Berwick Bay to Morgan City, LA, a total of 56 miles. This alternative route was enlarged from vicinity of Morgan City to Indian Village, LA, and extended from Indian Village, LA, through Bayou Grosse Tete and a new land cut to and through a new terminal lock and entrance channel to Mississippi River near Port Allen, LA, a total of 65 miles. Section from Atchafalaya River to Vermilion River, LA, begins at western end of Mississippi-Atchafalaya section and follows Atchafalaya River about 2.5 miles, portions of Little Wax Bayou, Possum Bayou, cutoffs, a land cut passing through North Bend Plantation to Bayou Bartholomew, Bayou Bartholomew to Little Bay, a land cut skirting north edge of Cote Blanche Island and west edge of Weeks Island to Vermilion River, about 24 miles below Abbeville, LA, a total of about 63.6 miles. Franklin Canal, St. Mary Parish, LA, extends southwesterly from Franklin, LA, on Bayou Teche, for 5.5 miles to Bayou Portage, a section of "The Inland Waterway from Franklin to the Mermentau River, LA," and through bayou for 0.75 mile to Gulf Intracoastal Waterway, 121 miles west of Harvey Lock. Section from Vermilion River to Mermentau River, LA, begins at western end of Atchafalaya-Vermilion section and follows Vermilion River 1.3 miles, a part of Schooner Bayou Cutoff canal, and a land cut running generally northwesterly to Mermentau River at a point about 0.5 mile above its entrance into Grand Lake and about 16 miles below town of Lake Arthur, LA, a total of about 42.7 miles. Vermilion Lock was constructed about 1.75 miles west of Vermilion River to prevent ingress of saltwater from Vermilion Bay. Section from Mermentau River to Calcasieu River, LA, begins at western end of Vermilion-Mermentau section and follows Mermentau River upstream for about 1.5 miles, a land cut running west-southwesterly to Lake Misere, passing north of lake and Bayou Misere, westerly to Sweet Lake, south and west of Sweet Lake, northwesterly to Bayou Tete Bois, through Bayou Tete Bois, Black Bayou, and cutoffs to a point on Calcasieu River about 16.6 miles below city of Lake Charles, LA, a total of about 37.1 miles. Calcasieu Lock was constructed near intersection of Calcasieu River and Intracoastal Waterway, mile 238 west of Harvey Lock, Calcasieu Parish, about 16.6 miles below Lake Charles, LA. Section from Calcasieu River to Sabine River, LA and TX, begins at western end of Mermentau-Calcasieu section, and follows Calcasieu River upstream about 1.6 miles, a land cut running southwesterly 2.8 miles, thence west 22 miles to Sabine River at a point about 3 miles below Orange, TX, a total of about 27.1 miles. (Refer to MRC alluvial valley map and Rigolets, Chef Menteur, St. Bernard, New Orleans, Barataria, Baton Rouge, Grosse Tete, Chicot Lake, Foster, Napoleonville, Morgan City, Belle Isle, Bayou Sale, Jeanerette, and Derouen quadrangles; Geological Survey maps, Cutoff, Houma, Gibson, Abbeville, Forked Island, Grand Lake East, Grand Lake West, Lake Charles, Sulphur, and Orange quadrangles; and NOAA Small-Craft Charts of Intracoastal Waterway, gulf section, Galveston Bay, TX, to Waveland, MS)

Previous projects. For details see page 544 of 1963 Annual Report.

Existing project. Provides for a waterway, within the district, from Lake Borgne to Sabine River by the following improvements; a channel 16 feet deep and 150 feet wide, from Mississippi River to Atchafalaya River, except in vicinity of Houma, miles 50.5 to 63.5, which is to be maintained at 12 by 125 feet; a channel 16 by 150 feet through bypass route around Houma, LA, miles 50.5 to 63.5, and through alternative connection in Mississippi River below Algiers, LA, about 9 miles long, a channel 16 by 200 feet from Atchafalaya River to Sabine River; a channel 12 by 150 feet in section between Lake Borgne Light 29 and New Orleans (via land cut through marsh and Inner Harbor Navigation Canal), 33.1 miles long; an alternative route 9 feet deep and 100 feet wide between Lake Borgne Light 29 and New Orleans (via Rigolets, Lake Pontchartrain, and Inner Harbor Navigation Canal), 40.5 miles long; a channel 12 feet deep and 125 feet wide for Plaquemine-Morgan City alternative route from Mississippi-Atchafalaya section of waterway, in vicinity of Morgan City, through lower Atchafalaya River (Berwick Bay) and borrow pit of East Atchafalaya protection levee to and through Bayou Sorrel Lock which was constructed under existing project "Flood Contol, Mississippi River and Tributaries," thence through Lower Grand River to Indian Village, and thence by way of Bayou Grosse Tete and a new land cut to and through a new terminal lock and entrance channel to Mississippi River near Port Allen, LA, opposite lower limit of Port Baton Rouge; a channel 9 feet deep and 100 feet wide from Indian Village on Plaquemine-Morgan City alternative route through Bayou Plaquemine and Plaquemine Lock to Mississippi River at Plaquemine, LA, improvement of Franklin Canal as a connecting channel from Gulf Intracoastal Waterway (mile 121) to Franklin, LA, to afford a channel 8 feet deep and generally 60 feet wide with a width of 100 feet in its upper 300 feet; and a saltwater guard lock (Calcasieu Lock) in waterway at mile 238 west of Harvey Lock. Project also provides for: widening at bends; passing places, mooring basins; locks or guard locks; such railroad bridges over artificial cuts as are necessary; purchase of pipeline dredge; construction and operation of new drainage canals and pumping facilities to restore parish drainage systems where intercepted; construction of movable bridges at Missouri Pacific Railroad and State Highways 31 and 996 (in lieu of State Highway Bridge 31, a tunnel was constructed, and additional cost over estimated cost of bridge was borne by local interest); fixed-trestle bridges for crossing proposed landside drainage canals; lift bridges at Louisiana Highway 168, Port Allen, LA, at Texas & Pacific Railway, Port Allen, LA, and at Texas & Pacific Railway, Morley, LA; and for annual payments to Board of Commissioners of Port of New Orleans for use of a portion of Inner Harbor Navigation Canal. Length of waterway within district is 384.1 miles via northerly or Port Allen route, and 299.4 miles via southerly or Harvey Canal route. Normal range of tide, 10 inches; extreme range, 14 inches. A severe storm may cause a high tide of from 6 to 9 feet.

Estimated cost for new work, exclusive of amounts expended on previous projects, is $157,833,827 Federal and $27,535,000 non-Federal, divided as follows; Algiers Lock and canal, completed June 1961, $15,895,924 Federal and $2,185,000 non-Federal; Plaquemine-Morgan City route, completed October 1963, $26,869,372 Federal and $2,250,000 non-Federal; and remainder of waterway (October 1980), $115,068,531 Federal and $23,100,000 non-Federal, including $73,700,000 Federal and $21,500,000 non-Federal for modification (authorized by Public Law 87-874), October 1962. In addition, the Coast Guard is to provide navigation aids at an estimated cost of $32,000.

Construction of bulkheads and jetties at Lake Borgne and Chef Menteur, LA, is considered inactive and excluded from foregoing cost estimate. Estimated cost (1956) of this item is $440,000. Construction of a double-leaf bascule, four-lane highway bridge provided for under this project has become unnecessary because portion of project over which bridge was to be constructed was incorporated in project "Mississippi River-Gulf Outlet" which provides for a larger bridge. Bayou Sorrel and Bayou Boeuf Locks were constructed and are being maintained and operated with "Flood Control, Mississippi River and Tributaries" funds. Therefore, construction, maintenance, and operation costs are not included in approved estimates referred to heretofore.

(See Table 11-D for locks on Gulf Intracoastal Waterway in New Orleans District.)

Local cooperation. Algiers Lock and Canal: All assurances required for construction were furnished. Local agency has failed to convey all fee and easement tracts with acceptable title evidence to the United States. However, authority has been received to accept the interests conveyed as best available from local agency with the understanding that the United States rely upon assurances of local cooperation should any claims against the United States occur as a result of failure of local agency to complete transfer of title.

Plaquemine-Morgan City alternative route: All assurances required for construction were furnished. Title by United States has been acquired to all but 35 tracts, for which local agency failed to comply fully with curative requirements in title certificate. Authority was given to accept the tracts conveyed as best available from local interests and to rely upon assurances of local cooperation furnished by local agency should any claims against the United States occur as a result of failure of local agency to complete transfer of title. Louisiana Office of Public Works has furnished assurances for maintenance and improvement.

Modification authorized by River and Harbor Act of 1962: Local interests must furnish lands, rights-of-way, and spoil-disposal areas for enlargement and future maintenance of project, make alterations to utilities; construct, maintain, and operate all bridges desired in connection with bypass channel around Houma, LA, and hold the United States free from damages. Assurances were requested in April 1963; however, none of the 11 local agencies involved has furnished assurances requested. Main objection to participation is requirement that local interests be responsible for alteration of utilities.

Replacement of Vermilion Lock: The Vermilion Parish Police Jury was requested to execute an Agreement of Local Cooperation on Oct. 26, 1972, agreeing to provide without cost to the United States all lands, easements, and rights-of-way required for construction and subsequent maintenance of the replacement lock and approach channels thereto, and hold and save the United States free from damages due to construction and maintenance of the project, including erosion of the channel beyond the rights-of-way furnished for the replacement lock and the approach channels thereto and comply with the provisions of Public Law 91-646 and Sec. 221 of Public Law 91-611. They furnished formal assurances covering all requirements of local cooperation, including Public Law 91-611 and Public Law 91-646, on Mar. 19, 1975. These assurances were in the process of being accepted by the United States, when the Water Resources Development Act of 1976 was enacted authorizing the 110-foot-wide lock. The assurances were executed by the Police Jury on Dec. 6, 1976, and were accepted by the District Engineer on behalf of the United States on Feb. 8, 1977. The Acting Director of Real Estate for the Secretary of the Army approved the assurances on Jul. 5, 1977. The project was renamed "Leland Bowman Lock (Replacement)" by House Resolution 4284 dated Sep. 21, 1981 (House Report 97-234).

Terminal facilities. Large terminal and transfer facilities, suitable for receiving and shipping commodities by barge, are available at principal cities in Louisiana; namely, New Orleans, Baton Rouge, Harvey, Morgan City, and Lake Charles. Facilities at New Orleans are on Inner Harbor Navigation Canal. Canal and facilities were leased from Board of Commissioners, Port of New Orleans, Apr. 1, 1944, and are now operated by the United States, toll free, 24 hours per day. At Morgan City, on Atchafalaya River, there are two large and three small wharves open to all without charge. Otherwise, facilities are considered adequate for existing commerce.

Operations and results during fiscal year. Maintenance by hired labor: Real estate activities, condition and operation studies, condition surveys, stream gaging, and channel patrol. Locks, bridges, and waterways were operated and maintained.

Fender systems were repaired at Algiers, Calcasieu, Harvey, Port Allen, and Vermilion Locks. Work by hired labor consisted of major repairs to the Algiers Lock. Miscellaneous repairs were made to the Florida Avenue Bridge, Vermilion, Harvey, and Port Allen Locks.

Maintenance by contract: Dredging under two contracts included removing 381,870 cubic yards from below Bayou Sorrel Lock and 3,408,505 cubic yards from Mermentau Calcasieu River Section. Dredge operations in the New Orleans Harbor included removing 338,060 cubic yards of material.

Construction was initiated on Oct. 15, 1981 for replacement of Leland Bowman Lock (Vermilion) and is 65 percent complete.

Condition as of Sep. 30. Construction was initiated July 1929 and project, as modified, is 55 percent complete. For information on completion of segments of waterway, see 1965 Annual Report, pages 523 and 524.

Work remaining to complete the project consists of enlarging waterway as provided by 1962 River and Harbor Act. Construction of bulkheads at Lake Borgne and Chef Menteur are inactive features as this work has not been necessary. President Carter, as a result of his review of water resource projects in April 1977, changed the site of the proposed new shiplock to the Industrial Canal in Orleans Parish and recommended that the existing lock be replaced and expanded at the existing site. This is a new concept and requires reinstitution of General Design planning with attendant slips in the schedule components.

10. HOUMA NAVIGATION CANAL, LA

Location. Extends from Gulf Intracoastal Waterway at mile 59.5 west of Harvey Lock southerly about 16 miles, thence southeasterly 10.5 miles to Terrebonne Bay, and 9.5 miles across bay to deep water in Cat Island Pass. At mile 11.3 above Cat Island Pass, Houma Navigation Canal crosses Bayou Petit Caillou, and 20 miles above Cat Island Pass it crosses Bayou Grand Caillou. No other major waterways are crossed by Houma Navigation Canal. (See Army Engineer and Geological Survey quadrangle maps, NOAA Nos. 11352 and 11340 Sailing Charts; and NOAA Nos. 11357 and 11356 Small-Craft Charts on the Intracoastal Waterway.

Existing project. Provides that United States assume maintenance and operation of Houma Navigation Canal, constructed by Parish of Terrebonne, to dimensions of 15 by 150 feet. Normal range of tide is 10 inches at mouth and 4 inches at Houma; extreme range is 14 inches at mouth and 6 inches at Houma; wind and tide, 1 to 3 feet at mouth; flood, 3 to 4 feet in upper section.

Local cooperation. Fully complied with. For details see page 11-13, Annual Report FY 1980.

Terminal facilities. Privately-owned and operated facilities are adequate for existing commerce which is mainly seafood plants; oil companies and oil company supplies; sugar refining; and marine repair shops and towing. Southern Pacific Lines has dock facilities in Houma, LA. Ample space exists for expansion of existing facilities, or for the construction of new wharves and appurtenances.

Operations and results during fiscal year. Hired labor work consisted of reconnaissance surveys, stream gaging, and condition and operation studies.

Maintenance dredging under one contract, stations, 19+99 to 1310+00, was completed Apr. 11, 1983, with 2,024,039 cubic yards of dike construction and stations 1373+00 to 2141+00, was initiated Jul. 7, 1983, with the removal of 1,790,720 cubic yards of material.

Condition as of Sep. 30. Maintenance by the United States commenced in November 1964.

11. LELAND BOWMAN LOCK, LA (REPLACEMENT OF LOCK) (FORMERLY VERMILION LOCK, LA)

Location. In the Louisiana section of the Gulf Intracoastal Waterway near Abbeville, Vermilion Parish, LA, about 163 miles west of Harvey Lock.

Existing project. The present Leland Bowman Lock, located in the most heavily utilized section of the Gulf Intracoastal Waterway, is the controlling structure in both width and depth. The lock is used for navigation and flood control (prevention of salt water intrusion). The tumbler-type gates are unsatisfactory for the dual purpose. (Flood Control-Navigation) operation required, since once the gates are lowered to pass flood flows, they cannot be safely raised until the differential stage across the lock is reduced to about 0.5 foot. The replacement lock also will provide a larger and more efficient outlet for floodwaters. Estimated cost for new work (October 1982) is $32,200,000 Federal and $240,000 non-Federal. The project was renamed "Leland Bowman Lock (Replacement)" by House Resolution 4284 dated Sep. 21, 1981 (House Report 97-234.)

Local cooperation. Provide all lands, easements and rights-of-way for construction of the project and hold and save the United States free from damages due to construction and maintenance works. The Vermilion Parish Police Jury furnished assurances covering all requirements of local cooperation, including PL 91-611 and PL 91-646, on Mar. 19, 1975. These assurances were in the process of being accepted by the United States, when the Water Resources Development Act of 1976 was enacted authorizing the 110-foot-wide lock. Amended assurances of local cooperation were accepted on behalf of the United States by the Secretary of the Army on Jul. 5, 1977. The Vermilion Parish Police Jury on May 26, 1981 granted right of entry for construction of project.

Terminal facilities. None.

Operations and results during fiscal year. Construction was initiated Oct. 15, 1981.

Condition as of Sep. 30. The project is 30 percent complete.

12. MERMENTAU RIVER, LA

Location. Work covered by this project is 35 to 70 miles southeast of Lake Charles, LA, along lower Mermentau River below Grand Lake, mile 25, to Gulf of Mexico; Inland Waterway from Vermilion Bay to White Lake, White Lake to Grand Lake, and from Schooner Bayou to Intracoastal Waterway-Gulf section (Schooner Bayou Cutoff); North Prong of Schooner Bayou; and waterway from White Lake to Pecan Island, LA, and artificial canal, extending from 5-foot-depth contour in White Lake, almost due south for about 1.8 miles to Pecan Island. (Refer to Coast Charts Nos. 11344 and 11349, NOAA Small-Craft Chart No. 11348 on the Intracoastal Waterway, Geological Survey maps, Sweet Lake, Hog Bayou, Grand Lake West, Grand Lake East, Constance Bayou, Forked Island, Pecan Island, and Abbeville quadrangles.)

Existing project. Flood control, navigation, irrigation, and salinity control in coastal marsh of lower Mermentau River Basin and channel enlargement of lower Mermentau River below Grand Lake, mile 25, to a minimum section of 3,000 square feet below mean low gulf level for discharge of flood flows; construction of a sector-gated control structure at Catfish Point, mile 24 above mouth of Mermentau River, for discharge of flood flows and control of tidal flows and saltwater intrusion in Mermentau River; channel enlargement and realinement of Inland Waterway from Vermilion Bay to White Lake, 12.04 miles, and from White Lake to Grand Lake, 6.14 miles, to a minimum section of 3,000 square feet below mean low gulf level or interflow between lakes and discharge of flood flows; construction of a sector-gated control structure in enlarged channel immediately north of abandoned Schooner Bayou Lock reservation for discharge of flood flows and control of tidal flows and saltwater intrusion; channel enlargement of North Prong of Schooner Bayou and Schooner Bayou Cutoff, 6.69 miles, to 6 by 60 feet, mean low gulf level, for navigation purposes; and maintenance of existing 5- by 40-foot, mean low gulf level, waterway from White Lake to Pecan Island, LA, 1.8 miles long, for navigation. In addition, project provides for incorporation of that section of project, "Inland Waterway from Franklin, LA, to Mermentau River," west of Vermilion Bay, a waterway that includes Schooner Bayou Lock. Project was reclassified as an "Operation and Maintenance, General" project under category, "Navigation (Locks, Dams, Reservoirs, and Canals)" by authority of Chief of Engineers, Apr. 23, 1956 Because of failure of both east and west gates, Schooner Bayou Lock was closed by a dike across east approach channel and traffic routed through new control structure. Under ordinary conditions mean range of tide on Mermentau River near mouth is 1.6 feet and near head about 3 inches. Variation of water surface near the mouth may be as much as 7 or 8 feet, due to hurricanes on the gulf, and near head from 3 to 12 feet, due to freshets. New work was completed in 1956. Estimated cost for new work (October 1982) is $6,570,000 Federal and $840,000 non-Federal, including $250,000 contributed funds.

Local cooperation. Fully complied with. For details see page 1022, Annual Report FY 1948.

Terminal facilities. Privately-owned and operated facilities are adequate along the Mermentau River and Bayous Nezpique and des Cannes for the principal commodities transported, which are petroleum and its products. A public wharf is located at Lake Arthur, LA, but due to insufficient use it has not been maintained and in its present condition is not usable. Sites for future expansion of these facilities are available and will be provided by non-Federal interests as required.

Operations and results during fiscal year. Hired labor continued operation and maintenance of Schooner Bayou and Catfish Point Control Structures, condition and operation studies, reconnaissance surveys, channel patrol, and water quality studies.

Other work by hired labor forces during the fiscal year: *Schooner Bayou Control Structures;* construction of a new boat landing, and maintenance repairs to the guidewalls.

Condition as of Sep. 30. Construction of project began April 1947 and completed July 1952. New work dredging was accomplished from April 1947 to June 1952. Catfish Point Control Structure was constructed from November 1948 to August 1951. Reservation comprises 9.7 acres. Schooner Bayou Lock and Control Structures: Schooner Bayou Lock and Dam were completed in 1913 and 1914, respectively, and the Lockmaster's house in 1917. Lock was closed to navigation May 7, 1951, and abandoned by authority of Chief of Engineers on Oct. 9, 1951. Permanent closure of lock channel and tie-in dikes was completed September 1951. Construction of control structures was accomplished from August 1949 to May 1951. Reservation comprises 6.9 acres.

13. MISSISSIPPI RIVER, BATON ROUGE TO GULF OF MEXICO, LA

Location. This reach of the river flows southeasterly through southeastern portion of Louisiana. At Head of Passes, approximately 233.1 miles below Louisiana Highway Commission bridge at Baton Rouge, river branches into three main passes: Southwest Pass, South Pass, and Pass a Loutre, two of which, Southwest Pass and South Pass, are improved under existing project. Head of Passes to mouths of Southwest and South Passes are 20.1 and 13.5 miles, respectively. Mouth of Southwest Pass is 141 miles west of Mobile, AL, and 349 miles east of Galveston, TX. Mouth of South Pass is 18.5 miles northeast of mouth of Southwest Pass. (Refer to NOAA Coast Charts Nos. 11361, 11364, and 11369; MRC alluvial valley map, and Zachary, Baton Rouge, White Castle, Donaldsonville, Thibodaux, Mount Airy, Bonnet Carré, Hahnville, New Orleans, St. Bernard, Barataria, Pointe a la Hache, Black Bay, Empire, Forts, West Delta, East Delta, and Southwest Pass quadrangles and 1980 (48th edition) folio of flood control and navigation maps, Mississippi River, Cairo, IL, to Gulf of Mexico, LA, published by the MRC.)

Previous projects. For details see page 552 of Annual Report for 1963.

Existing project. Provides for channel dimensions as follows: Between a line one-tenth mile below Louisiana Highway Commission bridge at Baton Rouge 129.3 miles to upper port limits of New Orleans, 40 by 500 feet mean low water; within limits of port of New Orleans, where that authority has jurisdiction over both banks of river, a distance of 17.8 miles, 35 by 1,500 feet, measured from a line generally 100 feet from face of left bank wharves, but not closer than 100 feet to wharves on right bank; within 35- by 1,500-foot channel in port limits of New Orleans, 40 by 500 feet; from lower limits of port of New Orleans 86.7 miles to Head of Passes, 40 by 1,000 feet; Southwest Pass, 17.5 miles from Head of Passes to jetty channel, 40 by 800 feet; 4.1 miles in the Southwest Pass bar and jetty channel, 40 by 600 feet; South Pass from Head of Passes to outer ends of jetties, 13.5 miles, 30 by 450 feet; and 1.2 miles in the South Pass bar channel, 30 by 600 feet. Plane of reference through New Orleans and below is mean low gulf. Plane of reference above New Orleans is low water reference plane. General plan of improvement of Southwest Pass provides for constructing pass to uniform cross section with about 1,420-foot surface width by means of jetties, spur dikes, and bulkheads;

for channel maintenance by dredging from Cubits Gap, mile 3.5 AHP through the gulf entrance channel, mile 21.5 BHP; for construction of small revetted openings through narrow portions of banks of pass for purpose of strengthening and nourishment of banks; for closure of minor outlets not required for maintenance of banks; for construction of sills to prevent enlargement of the Venice Jump and Cubits Gap; for repairs to sill across Pass a Loutre and bank revetment at Head of Passes; for construction of dikes with a view to reducing width of river above Head of Passes; for construction of a submerged deflecting dike above Head of Passes; and for other minor work. East jetty is about 24,950 feet long and west jetty 19,699 feet. Jetties are composed of a substructure of brush mattresses, orginally built to about elevation of mean low gulf, surmounted with a superstructure of concrete blocks and large riprap and/or stone rubble mound of core and cover stone. Spur dikes are composed of cribwork of round piling filled with willows and stone, or with a curtain of round piles along upstream face. General plan of improvement of South Pass provides for construction and maintenance of jetties and spur dikes; for channel maintenance by dredging from Head of Passes through the Gulf Entrance Channel beyond mile 13.5 BHP; maintenance of a sill across Pass a Loutre, and for seaward extension of east jetty at mouth of pass; removal of west dike and construction of spur dikes and bank revetment at Head of Passes; removal of false point at head of South Pass to bottom elevation of minus 45 feet and revetment of new bank line and construction and maintenance of east and west headland structure at Head of Passes. East jetty foundation is 12, 070 feet long; inner east jetty is 11,170 feet long; west jetty is 7,820 feet long; and inner west jetty is 4,710 feet long. Jetties are composed of a substructure of brush mattresses surmounted by a superstructure of stone and/or concrete blocks and large riprap. Spur dikes are composed of cribwork of round piling filled with willows and stone. Plane of reference is mean low gulf. Variation of water surface is 16 inches at mouths and 10 inches at head of the passes, due to tides. Extreme range of tides at mouths of passes due to hurricanes in about 10 feet. At New Orleans extreme range of water surface is about 20 feet due to floods. At Baton Rouge extreme range is about 45 feet due to floods.

Estimated cost of existing project (October 1983) is $244,000,000 Federal. In addition, Coast Guard is to provide navigation aids at an estimated cost of $1,222,800.

Local cooperation. None required, except for modification of project in connection with Mississippi River-Gulf Outlet, which is reported separately.

Terminal facilities. Piers, wharves, or docks serve the Port of New Orleans. Most wharves on east or left bank parallel riverbank forming nearly a continuous covered quay about 10 miles long. Public wharves controlled by Board of Commissioners, Port of New Orleans (the Dock Board), cover 62 percent of improved waterfront. These facilities include a shipside grain elevator, general cargo and cotton wharves, fruit landings, bunkering facilities, terminal warehouses, railroad terminals, marine railways, and drydocks. (For further details see Port Series No. 20, "The Port of New Orleans, LA" revised 1977.) A foreign trade zone is located in Port of New Orleans. City of Baton Rouge has a reinforced concrete dock for deep-sea vessels with mechanical-handling facility. Attached to downstream end of wharf is a floating wharf boat 231 by 40.5 feet, of 2,000-ton capacity. Facilities are served by a transfer boat and municipal terminal having a capacity of 40 cars per day. Private terminals for handling oil, grain, bauxite ore, and other products are at points on both sides of river between New Orleans and Baton Rouge. Facilities are considered adequate for existing commerce. (For further details, see "Port Facilities" included in "Flood Control and Navigation Maps of the Mississippi River, Cairo, IL, to the Gulf of Mexico, LA," published annually by the MRC, and Port Series No. 19, vol. 1, "Port St. Joe, FL, Pensacola, FL, Baton Rouge, LA, and Lake Charles, LA," revised 1979.)

Operations and results during fiscal year. The draft Supplement II to the GDM was completed in September 1983, and the draft environmental impact statement (EIS) for this supplement was also completed in September 1983.

Maintenance: (a) Baton Rouge to New Orleans: The U.S. dustpan dredge *Jadwin* and one hopper dredge removed 9,685,638 cubic yards of shoal material at a cost of $8,278,100.

(b) New Orleans Harbor: One leased dredge contract removed 3,599,803 cubic yards of material at a cost of $1,873,200.

(c) Head of Passes and Southwest Pass: The U.S. Hopper dredge *Wheeler* removed 2,737,665 cubic yards of shoal material from the lower jetty and bar channels at a cost of $2,846,100. Four leased hopper dredges removed 9,123,826 cubic yards of shoal material at Head of Passes and the lower jetty and bar channels under two contracts at a total cost of $14,178,300. Two cutterhead dredges, under one unit price contract, removed 9,239,673 cubic yards of shoal material at a cost of $7,500,000.

(d) Southwest Pass: Work was completed on one bank stabilization contract for repairs to ten pile dikes on the left descending bank between miles 10.77 and 17.80 BHP. Total cost of this contract was $3,085,100. In addition, hired labor units repaired pile dikes between Head of Passes and mile 12.6 BHP on the right descending bank at a total cost of $917,900, and dredging targets in the lower bar and jetty channels at a cost of $97,800.

(e) Southwest Pass: Hired labor repairs were made to pile dike structures at a cost of $917,900.

(f) *Langfitt* wharf: Repairs made to wharf at a cost of $22,100.

Condition as of Sep. 30. The existing project is 40 percent complete. Deepening Southwest Pass to 40 feet mean low gulf, as authorized by the modification of Mar. 2, 1945, was completed in September 1963. Deepening the channel to 40 feet mean low water from

Baton Rouge to New Orleans and to 40 feet mean low gulf in New Orleans Harbor, as authorized by the modifications of Oct. 23, 1962, was completed in August 1963.

14. MISSISSIPPI RIVER-GULF OUTLET, LA

Location. In State of Louisiana and extends from existing Inner Harbor Navigation Canal at a point 7,500 feet north of existing lock and about 11,000 feet from Mississippi River, to a turning basin south of Michoud, LA, and then as a land and water cut from turning basin south of Michoud, LA, southeasterly to and along south shore of Lake Borgne and through marshes to and through Chandeleur Sound to 38-foot contour in Gulf of Mexico. (Refer to NOAA Coast Charts Nos. 11340, 11360, 11363, 11369, 11371, and 11373. Also see MRC 1980 (48th edition) folio of maps, Mississippi River-Cairo, IL, to Gulf of Mexico, LA.)

Existing project. Provides for a seaway canal, 36 by 500 feet, extending 76 miles as a land and water cut from Michoud southeasterly to and along south shore of Lake Borgne, and across Chandeleur Sound to Chandeleur Island and increasing gradually to 38 by 600 feet in Gulf of Mexico, with protective jetties at entrance, a permanent retention dike through Chandeleur Sound, and a wing dike along islands as required. It also provides for an inner tidewater harbor consisting of 1,000- by 2,000-foot turning basin 36 feet deep at landward end of seaway canal, and a connecting channel 36 by 500 feet wide extending westerly along Gulf Intracoastal Waterway from turning basin to Inner Harbor Navigation Canal, including construction of a suitable highway bridge with approaches to carry Louisiana State Highway 47 (formerly 61) over channel. Plan further provides for future construction of a channel and lock in the vicinity of Meraux to furnish an additional connection between tidewater harbor and Mississippi River. Estimated cost for new work (October 1983) is $499,000,000 Federal and $208,000,000 non-Federal. This does not include modification for Mississippi River-Gulf Outlet, Michoud Canal, which is reported separately. The Federal cost excludes $45,000 for aids to navigation by U.S. Coast Guard.

Local cooperation. Original assurances furnished and accepted. Local agency has furnished Supplemental Assurance covering Public Law 91-646. Rights-of-entry for entire project were furnished by local agency which is in process of actively conveying to the United States title to remaining tracts. Supplemental assurances reflecting the changes made necessary by enactment of the Water Resources Development Act of 1976 were requested on Jan. 12, 1977. The Board of Commissioners of the Port of New Orleans, by letter dated Sep. 18, 1978, stated that they are unable to provide the required supplemental assurances at this time. They are concerned about the possible effects of the proposed new Inner Harbor Navigation Canal Lock on this project and pending legislation concerning local assurances for the Inner Harbor Navigation Canal project. Local interests have provided right of entry for construction for the Baptiste Collette Bayou portion of this project.

Terminal facilities. The only facility on the waterway is the Public Bulk Terminal of New Orleans constructed by Board of Commissioners, Port of New Orleans, on left descending bank at mile 63. Two new-container ship berths have begun operation at the Industrial Canal end of the seaway.

Operations and results during fiscal year. New work by hired labor: Engineering environmental and economic studies were completed for the new lock and connecting channels feature. One contract for foreshore protection test section, south bank, Chalmette Area, station 475 to 501 was completed December 1982.

Condition as of Sep. 30. Construction was initiated March 1958 and entire project is 75 percent complete. The channel was opened to navigation Jul. 25, 1963, and completed Jan. 20, 1968. Paris Road Bridge was opened to traffic Jul. 21, and completed Nov. 14, 1967. Approximately 3 miles of first- and second-lift stone dikes have been constructed on north side of channel and approximately 8.27 miles of first-lift and 7.34 miles of second-lift stone dikes have been constructed on south side of channel in Breton Sound. Principal work required to complete project is construction of new ship lock, raising and extending dikes, and construction of foreshore protection. The site for the lock remained the major problem. President Carter, as a result of his review of water resource projects in April 1977, changed the site for the proposed shiplock to the Industrial Canal in Orleans Parish and recommended that, if justified, the existing lock should be replaced and expanded in place and that care should be taken to minimize dislocation of residents living adjacent to the site. These recommendations are being addressed in an Evaluation Report scheduled for completion in FY 1984.

15. MISSISSIPPI RIVER OUTLETS, VENICE, LA

Location. In the coastal marsh area and in the vicinity of the Mississippi River at about miles 10 to 11 above the Head of Passes. (Refer to NOAA Coast Chart No. 1361.)

Existing project. Provides for additional navigation outlets in the vicinity of Venice, LA, by enlargement of the existing channels of Baptiste Collette Bayou and Grand-Tiger Passes to 14 by 150 feet with entrance channels in open water 16 by 250 feet and jetties to the 6-foot-depth contour, if and when justified, to reduce cost of maintenance dredging. Existing project was completed at a cost of $10,008,400.

Local cooperation. For details see page 11-17, Annual Report, FY 1980.

Assuring Agency: Plaquemines Parish Commission Council. Basic assurances for the project have been furnished. Amended assurances covering Public Laws 91-646 and 91-611 were received on Aug. 5, 1977.

Terminal facilities. In the Venice area, each operator of a construction, repair, or supply facility provides dock and transfer facilities to meet his own needs or arranges to use those of another. These facilities are considered adequate for the anticipated traffic. If new industry or supply facilities are established, they would provide any needed terminal facilities for their use. Ample areas for future expansion are available.

Operations and results during fiscal year. Hired labor work consisted of reconnaisance surveys, condition and operation, stream gaging and engineering studies. Contract work for maintenance dredging at Baptiste Collette Bar Channel, was completed Jul. 1, 1983, with a total of 956,545 cubic yards of material removed: maintenance dredging at Tiger Pass was also completed on Jul. 18, 1983, with 2,214,838 cubic yards of material removed.

Condition as of Sep. 30. The project is 90 percent complete.

16. REMOVAL OF AQUATIC GROWTH, LA

Location. Lakes and streams tributary to the gulf coast.

Existing project. Removal of plants from navigable waters of Florida, Alabama, Mississippi, Louisiana, and Texas, so far as they are or may become an obstruction to navigation, by any mechanical, chemical, or other means whatsoever; for construction and operation of boats equipped with suitable machinery for such removal; and construction and operation of booms to prevent plants drifting from one stream to another.

Local cooperation. None required.

Operations and results during fiscal year. Maximum use of funds available was made by using chemical methods of destruction. Maintenance continued in main waterways and principal tributaries to prevent water-hyacinth obstructions and damage to navigation. Preventive maintenance work was carried out in secondary streams and feeder areas whenever possible. In some cases where alligatorweed has previously kept water-hyacinth fringes confined along the banks, attack of the alligatorweed flea beetles *(Agasicles)* has reduced its competitiveness and water-hyacinths are multiplying and spreading in the waterways. A total of 30,792 acres of water-hyacinth were treated by chemical in Bayou Black, Lake Cataouatche and feeder streams, Lake des Allemands area, the Port Allen-Morgan City Route and Alternate Route of the Gulf Intracoastal Waterway, Lake Dauterive and Grand Lake areas, Bayou Penchant-Bayou Copasaw area, the Gulf Intracoastal Waterway, Bayou Lafourche, Bayou Lacassine, and Bayou Teche. Aerial spraying by helicopter controlled 4,831 acres. A mild winter, excessive rainfall, and extreme summer temperatures prevented additional areas from being placed in a maintenance status. The introduction of the water-hyacinth weevil *(Neachetina eichhorniae)* has been made and populations are increasing. A large scale operations management test using the water-hyacinth weevil and the most promising plant pathogen *(Cercospora rodmanii)* has begun and will be monitored for effectiveness of control. A moth *(Samoedes albiguttalis)* has recently been introduced to assist in the control of water-hyacinth.

Condition as of Sep. 30. From 1900 to 1902 a boat with suitable machinery for destroying hyacinth by crushing was operated. From that time until 1937 hyacinths were destroyed through use of a solution of arsenic and caustic soda which was sprayed on vegetation. The vegetation was removed by hand crews, and vegetation movement was controlled by booms and barricades. Use of arsenic was discontinued and hand removal supplanted by use of mechanical equipment in conjunction with chemical spray (2,4-dichlorophenoxyacetic acid). Use of booms and barricades has been discontinued. Use of the quarterboat *Tambour* was discontinued in September 1981. Present methods of control are by means of chemical spraying supplemented by the use of insects and pathogens for biological control. Waterways Experiment Station is conducting a large-scale operations management test of insects and pathogens for control of water-hyacinth in Louisiana.

17. TANGIPAHOA RIVER, LA

Location. The river originates in the State of Mississippi and flows southerly to Lake Pontchartrain, LA, about 119 miles. (Refer to NOAA Coast Chart No. 11369 and MRC alluvial valley map, Ponchatoula quadrangle.)

Existing project. Improvement by removing overhanging trees, snags, and obstructions to navigation for 53.5 miles above mouth, and provide an 8- by 100-foot entrance channel from the 8-foot depth contour in the lake to the 8-foot depth in the river. Variation in water surface is from 3 to 20 feet in the upper reaches due to freshets and from 2 to 5 feet in the lower reach due to winds and tides. The cost of existing project was $61,211, Federal (including $11,500 for previously completed portion and $49,711 for preauthorization studies and modification adopted under Sec. 107, 1960 River and Harbor Act, as amended) and $29,346 contributed funds for the modification.

Local cooperation. Fully complied with for completed work.

Terminal facilities. None required.

Operations and results during fiscal year. Hired labor forces conducted reconnaissance surveys and prepared plans and specifications.

18. WATERWAY FROM INTRACOASTAL WATERWAY TO BAYOU DULAC, LA (Bayous Grand Caillou and LeCarpe, LA)

Location. Bayou LeCarpe is a tidal stream which rises about 1.5 miles southeast of Houma in Terrebonne Parish and flows southerly into Bayou Pelton, thence into Bayou Grand Caillou, which flows southwesterly into Caillou Bay, a total distance of about 40 miles. (Refer to Coast and Geodetic Survey Chart, No. 1116 and Geological Survey maps of Houma, Dulac, Bayou DuLarge, and Dog Lake quadrangles.)

Existing project. As modified, provides for a 10- by 45-foot channel in Bayou LeCarpe from Gulf Intracoastal Waterway 2.6 miles to Houma navigation canal; a 5- by 40-foot channel through Bayou Pelton and Bayou Grand Caillou to Bayou Dulac, a distance of about 13.7 miles. Between miles 2.6 and 5, this project coincides with or is adjacent to 15- by 150-foot Houma navigation canal. Normal range of tide is 3 to 10 inches; from winds, 1 to 3 feet. Cost of new work, completed in August 1964, was $129,662.

Local cooperation. Local interests must furnish lands, easements, and rights-of-way necessary for enlargement and subsequent maintenance of Bayou LeCarpe and of aids to navigation, and provide alterations to facilities, and hold the United States free from damage. Assurances were furnished and accepted. Local agency made available spoil areas for maintenance dredging of Bayou LeCarpe. None of these areas will be transferred to the United States. Meeting are continuing with local interests to resolve problems with their required cash contribution on total project cost.

Terminal facilities. Many terminal and transfer facilities are in Houma and along waterways which flow through area between Houma and Gulf of Mexico. All facilities are privately owned and operated. Facilities are adequate for existing commerce and for reasonably prospective commerce. Ample space exists for expansion of existing facilities or for construction of new wharves and appurtenances.

Operations and results during fiscal year. Hired labor consisted of real estate activities, reconnaissance surveys, water quality studies and maintenance dredging.

Condition as of Sep. 30. The 5- by 40-foot channel was constructed from January 1938 to August 1938, and modification of October 23, 1962, for enlargement of 2.54 miles of Bayou LeCarpe to 10 feet by 45 feet was initiated in May and completed August 1964.

19. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization.)

Preauthorization studies costs as of Sep. 30, 1983, were $111,102 for Bayou Grand Caillou.

Flood Control

20. GRAND ISLE AND VICINITY, LA

Location. In south Jefferson Parish, LA, along the Gulf of Mexico, about 50 miles south of New Orleans and 45 miles northwest of southwest pass (Mississippi River).

Existing project. The project provides protection from waves driven by hurricanes that have a frequency of recurrence of up to once in every 50 years. The plan consists of a berm and vegetated dune extending the length of Grand Isle's gulf shore and a jetty to stabilize the western end of the island at Caminada Pass. The dune would have a 10-foot-wide crown at an elevation of 11.5 feet mean sea level, 1 on 5 side slopes, and protective vegetation. The sandfill berm would slope from an elevation of 8.5 feet mean sea level at the toe of the dune 180 feet gulfward to an elevation of 3 feet mean sea level and, from this point, would assume its natural slope to the offshore bottom. The jetty provided by the plan has a top width of 6 feet at an elevation of 4 feet mean sea level, 1 on 2 side slopes, and extends approximately 2,600 feet along the western end of the island at Caminada Pass. Estimated cost of project (October 1983) is $7,910,000 Federal and $7,450,000 non-Federal, including $2,040,000 contributed funds.

Local cooperation. Provide without cost to the United States, all lands, easements, and rights-of-way for construction of the project, currently estimated to cost $4,410,000; accomplish without cost to the United States all relocations and alterations of buildings, streets, utilities, and other structures and improvements made necessary by the construction of the project; hold and save the United States free from claims for damages due to the construction works; assure maintenance, repairs, and periodic beach nourishment of the project after completion as may be required to serve the intended purposes in accordance with regulations prescribed by the Secretary of the Army, except that the Federal Government will contribute, for an initial period of 15 years, a sum currently estimated at $39,000 annually toward the cost of beach nourishment associated with beach erosion prevention, subject to a final determination on the basis of conditions of public use and ownership at the time of construction; provide a cash contribution for the hurricane protection function in an amount sufficient to insure that local investment in cash, equivalent work, and fair market value of lands and relocations are at least equal to 30 percent of all first costs allocated to that function, which cash contribution is presently estimated at $1,150,000; contribute cash or equivalent work an amount sufficient to pay the non-Federal share of construction costs allocated to beach erosion control, that amount presently estimated at $3,040,000 less $1,000,000 credit for completed work, west end jetty, or $2,040,000, the final amount to be determined at the time of project construction in accordance with cost-sharing procedures for beach erosion control as defined in the report; obtain approval by the Chief of Engineers, prior to commencement of any work on shore and beach protection phases of the project if undertaken separately from the recommended combined project, of detailed plans and specifications for the work contemplated and also the arrangements of prosecuting such work, excluding the preauthorization jetty construction; assure continued public ownership of the shore upon which the amount of Federal participation in the beach protection phase is based, and its administration for public use during the life of the project, and assure continued availability for public use of privately owned shores; assure that water pollution which would endanger the health of bathers will not be permitted; adopt and enforce appropriate ordinances to provide for the preservation of the improvement and its protective vegetation; at least annually, inform interests affected that the project will not provide any substantial protection from hurricane flooding on the bay side, or from hurricane surges higher in elevation than those of Hurricane Betsy of Sep. 9, 1965; comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies of 1970, Public Law 91-646; agree to the requirements of Section 221 of the Flood Control Act of 1970, Public Law 91-611. Comply with section 601 of Title VI of the Civil Rights Act of 1964 (Public Law 88-352) that no person shall be excluded from participation in, denied the benefits of or subjected to discrimination in connection with the project on the grounds of race, creed, or national origin. Formal assurances requested of Jefferson Parish Council, and the Mayor, Town of Grand Isle, LA, on Aug. 12, 1981. The Town of Grand Isle is not financially capable to be the sole local assurer. The Louisiana Office of Public Works co-signed an agreement with the town of Grand Isle to assure complete financial responsibility on Jun. 1, 1983.

Operations and results during the fiscal year. The dredging contract for beach erosion was awarded Jul. 25, 1983, but construction was not initiated during FY 83.

Condition as of Sep. 30. Construction is to be initiated on Nov. 15, 1983.

21. LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION)

Location. In southeastern Louisiana, vicinity of New Orleans, in St. Charles, Jefferson, Orleans, St. Bernard, and St. Tammany Parishes, comprising lower land and water area between Mississippi River alluvial ridge and the Pleistocene escarpment to north and west. The dominant topographic feature is Lake Pontchartrain, a shallow landlocked tidal basin, about 640 square miles in area and averaging 12 feet deep, connecting with lesser Lake Maurepas to the west and through Lake Borgne and Mississippi Sound to the gulf to the east. The lake drains about 4,700 square miles of tributary area. (Refer to Geological Survey quadrangles Yscloskey and Malheureaux Point, Drum Bay, Door Point, Lake Eugenie, Oak Mound Bayou, Mitchell Keys, Lake Eloi, and Morgan Harbor; Engineer quadrangles Slidell, Covington, Ponchatoula, Springfield, Denham Springs, Donaldsonville, Mt. Airy, Bonnet Carré, Spanish Fort, Chef Menteur, Rigolets, St. Bernard, New Orleans, and Hahnville; and Coast and Geodetic Survey Charts No. 1115 and 1116.

Existing project. Provides for control of hurricane tides by construction of two independent units; the Lake Pontchartrain barrier plan involves construction of a barrier levee along eastern boundary of the lake with navigation and hurricane flood control structures in Chef Menteur Pass, the Rigolets, and at Seabrook. These protective works, together with strengthening and extension of existing protective works and the construction of the Seabrook Lock, will afford full protection to the south shore of Lake Pontchartrain from Bonnet Carré Spillway to the eastern limit of Orleans Parish levee along the Gulf Intracoastal Waterway and the Inner Harbor Navigation Canal. The Chalmette area plan consists of improving existing protection along east bank Inner Harbor Navigation Canal from the lock to Florida Avenue, then constructing a new levee to Mississippi River-Gulf Outlet, thence along south bank of gulf outlet to Bayou Lawler, then turning south and tieing into Mississippi River levee at Violet, LA. The approved Chalmette area plan was modified, under the discretionary authority of the Chief of Engineers, to provide for enlargement of the protected area by construction of a levee from the Mississippi River levee near Caernarvon, LA, to the vicinity of Verret, LA, thence to and along the Mississippi River-Gulf Outlet to a junction with the approved levee at the Bayou Lawler crossing of the Mississippi River-Gulf Outlet, and elimination of the levee in the approved plan from the Bayou Lawler and Mississippi River-Gulf Outlet to Violet, LA. Navigable drainage structures will be provided at Bayous Bienvenue and Dupre. Strengthening existing seawall at Mandeville on the north shore will insure that future hurricanes will not seriously damage this resort community. Estimated cost for new work (October 1983) is $594,000,000 Federal and $282,000,000 non-Federal, including cash contribution of $202,540,000 which includes $23,500,000 estimated to be capitalized value of operation and maintenance of Rigolets navigation lock and appurtenant channel.

Local cooperation. Provide all rights-of-way; bear 30 percent of the first cost, consisting of fair market value of providing all lands, easements, and rights-of-way, including borrow and spoil disposal areas for construction, accomplish alteration and relocation of roads, railroads, pipelines, cables, wharves, drainage structures, and other facilities; maintain and operate all works after completion; and hold and save the United States free from damages. See H. Doc. No. 231, 89th Cong., 1st sess. for more detailed requirements of local cooperation.

Assuring Agency: The Orleans Levee District, Lake Borgne Basin Levee District, St. Bernard Parish Police Jury, Louisiana Office of Public Works, and Pontchartrain Levee District. Basic assurances were received from the following: Orleans Levee District for the entire barrier plan and that portion of the Chalmette area plan in Orleans Parish; Pontchartrain Levee District for the barrier plan; Lake Borgne Levee District and St. Bernard Parish Police Jury for the Chalmette area plan in St. Bernard Parish. Supplemental assurances covering Public Law 91-646 have been received from the Orleans Levee District and the Pontchartrain Levee District. Lake Borgne Basin Levee District and St. Bernard Parish Police Jury have executed the supplemental assurance. The Governor of Louisiana executed an assurance containing all required provisions of local cooperation, including Public Law 91-646, for and on behalf of St. Tammany Parish. Approval of this assurance is being delayed pending receipt of supporting documents. Louisiana Office of Public Works is assisting in obtaining the required documents.

Operations and results during fiscal year. Preparation of design memorandums and plans and specifications continued by hired labor. Preparation of four design memorandums is underway. All four are scheduled for completion in FY 84.

Condition as of Sep. 30. Construction started May 1967 and is 51 percent complete.

Contract work continued on six contracts. Construction was initiated on four more contracts: Bayou Bienvenue to Bayou Dupre levee closures; Chalmette area, second enlargement; Inner Harbor Canal, east and west levee and Citrus Back levee to Paris road, capping floodwall; Chalmette extension, first enlargement.

22. LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION)

Location. In coastal section of Louisiana, along Bayou Lafourche, and includes lands on both banks of the bayou from Larose to 2 miles south of Golden Meadow. (Refer to Geological survey quadrangles Cut-off, Lke Felicity, Bay Dosgris, Golden Meadow Farms, Bay Tambour, Mink Bayou, Caminada Pass, Leeville, Belle Pass, Pelican Pass, and Calumet Island; Engineer quadrangles New Orleans, Hahnville, Point-a-la-Hache, Barataria, and Fort Livingston; and Coast and Geodetic Survey Charts Nos. 1115 and 1116

Existing project. Provides a loop levee about 40 miles long along both banks of Bayou Lafourche from Larose to South Golden Meadow; enlargement of 3 miles of existing levee at Golden Meadow; floodgates for navigation and hurricane protection in Bayou Lafourche at upper and lower bayou crossings; about 8 miles of low interior levees to regulate intercepted drainage and seven multibarreled culverts controlled by flapgates. Estimated cost for new work (October 1983) is $61,300,000 Federal and $26,300,000 non-Federal.

Local cooperation. Provide without cost to the United States all lands, easements, and rights-of-way, including borrow areas and spoil disposal areas, and accomplish alterations to roads, pipelines, cables, wharves, oil wells, and any other facilities necessary for the construction of the project; all at an estimated cost of $10,430,000; bear 30 percent of the total project cost, a sum presently estimated at $26,300,000 consisting of the items listed above, and a cash contribution presently estimated at $15,870,000 or equivalent work specifically undertaken as an integral part of the project after authorization and in accordance with construction schedules as required by the Chief of Engineers; hold and save the United States free from damages due to the construction works; maintain and operate all the works after completion in accordance with regulations prescribed by the Secretary of the Army; and prevent any encroachment on ponding areas unless substitute storage capacity or equivalent pumping capacity is provided promptly without cost to the United States; comply with the provisions of the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) and with the provisions of Section 221 of the Flood Control Act of 1970 (Public Law 91-611) in acquiring real property.

The Board of Commissioners of the South Louisiana Tidal Water Control Levee District executed the required Agreement of Local Cooperation on Nov. 13, 1972, which was executed by the United States on Jul. 10, 1973 and approved on behalf of the Secretary of the Army on Aug. 29, 1973. Section 38, Paragraph 1051 et seq., Louisiana Revised Statutes created the South Lafourche Levee District. The South Lafourche Levee District assumed the rights and obligations of the South Louisiana Tidal Water Control Levee District with respect to this project.

Operations and results during fiscal year. One design memorandum was submitted to LMVD for review during the year. One contract for Larose Floodgate was awarded Jun. 30, 1983.

Condition as of Sep. 30. Construction commenced in February 1975 and is 38 percent complete.

23. MCKINNEY BAYOU, AR AND TX

Location. The McKinney Bayou watershed covers approximately 360 square miles and is located in southwestern Arkansas and northeastern Texas in the vicinity of the city of Texarkana, AR and TX, within the flood plain of the Red River.

Existing project. Provides improvements for three major elements; improvement of the McKinney Bayou channel, construction of a diversion channel into Red River and control structure at Buzzard Bluff, and construction of a diversion channel into Red River and control structure about one-half mile west of the Arkansas-Texas state line. Mitigation of project-induced wildlife losses are included in the project. Estimated cost of new work (October 1983) is $6,570,000 Federal and $4,520,000 non-Federal, including cash contribution of $728,000.

Local cooperation. For details see pages 11-29 and 30, Annual Report for FY 1980.

Operations and results during fiscal year. A draft General Reevaluation Report and Environmental Impact Statement was distributed for review by Federal and State agencies and others on Jul. 28, 1983. The reevaluation disclosed changed conditions and attitudes to modify the authorized plan. The portion of the project located west of the Arkansas-Texas state line was deleted because of lack of support by local interests. This portion of the project was reclassified to inactive in November 1982. The Buzzard Bluff portion was deleted for economic reasons. All alternative investigations of the Buzzard Bluff portion of the project had benefit-cost ratios less than unity. The tentatively selected plan now consists of channel improvements of McKinney Bayou to the same dimension as authorized and a reduced mitigation plan of 2,550 acres of greentree reservoir along the periphery of the Bois d'Arc Wildlife Management Area near Fulton, Arkansas.

Condition as of Sep. 30. The draft General Reevaluation was under review by local interest who requested an extension of the review period to Oct. 30, 1983.

24. MORGAN CITY AND VICINITY, LA (HURRICANE PROTECTION)

Location. In south-central Louisiana, Morgan City proper, and the adjacent areas. It includes the land south of Grand Lake, Six Mile Lake, and Lake Palourde extending from Morgan City westward to Charenton drainage and navigation canal. Lower Atchafalaya River and Wax Lake Outlet, the principal outlets for Atchafalaya Basin Floodway, traverse the area. Gulf Intracoastal Waterway crosses the area in an east-west direction. Numerous bayous and artificial canals excavated for drainage purposes or for access to oil developments exist throughout the area. (See Engineer quadrangles Bayou Sale, Jeanerette, Foster, Belle Isle, Point Au Fer, Morgan City, and Lake Decade; and Coast and Geodetic Survey Chart 1116.)

Existing project. Morgan City: Construction of about 5.6 miles of new levees along shore of Lake Palourde and west bank of Bayou Ramos and about 0.5 mile of new levee from Southern Pacific railroad embankment near Wyandotte to tie in with Bayou Boeuf lock levee, and construction of three gravity drainage structures.

Franklin and vicinity: Enlargement of about 21.6 miles of back levee and construction of about 3.5 miles of new levees to effect a complete closure of area to be protected, construction of one floodgate and eight gravity drainage structures, and alteration of existing drainage facilities where necessary. Normal range of tide is 1.6 feet. Storm and hurricane tide have produced elevations up to 10 feet while northerly storms during winter depress the gulf level as much as 3 feet below mean sea level. During low water periods on Atchafalaya River, generally September through November, the effect of tide extends about 35 miles above Morgan City. Estimated cost for total project (October 1983) is $25,800,000 Federal and $13,930,000 non-Federal.

Local cooperation. Local interest must furnish lands, easements, and rights-of-way for construction and future maintenance, provide relocations and alterations required for project; provide all interior drainage and pumping plants required for reclamation and development of protected areas; maintain and operate all project works after completion, provide assurances that encroachment on existing ponding areas will be prevented unless substitute storage capacity or equivalent pumping capacity is provided promptly, without cost to the United States; contribute in cash or equivalent work not less than 30 percent of project cost, the final determination to be made after construction is complete; and hold and save the United States free from damages due to construction works.

Assuring Agency: The act of assurance and supporting resolution from the St. Mary Parish Police Jury were accepted for and on behalf of the United States on Jul. 18, 1968. Supplemental assurances were furnished by the St. Mary Parish Police Jury for the Morgan City Area separable feature of the project. These supplemental assurances include the additional items of local cooperation required by PL 91-611 and PL 91-646 and were accepted on behalf of the United States on Jul. 23, 1980. The Franklin Area feature was specifically excluded in the supplemental assurances.

Operations and results during period. General engineering only was accomplished by hired labor forces during the fiscal year. The GDM for the Morgan City area progressed approximately 30 percent in FY 1983. The remainder of work on the GDM will be accomplished in FY 1985.

Condition as of Sep. 30. Construction has not commenced.

25. NEW ORLEANS TO VENICE, LA, HURRICANE PROTECTION

Location. Includes land subject to inundation by hurricane tides extending along both banks of the Mississippi River below New Orleans from vicinity of Phoenix to Venice, LA.

Existing project. Provides for improvements along Mississippi River below New Orleans, LA, for prevention of hurricane tidal flood damages by increasing heights of existing back levees and modifying existing drainage facilities where necessary in three separate reaches: Reach A, on the west bank from City Price to Empire, 15 miles, 4,340 acres protected; Reach B, on the west bank from Empire to Venice, 21 miles, 4,900 acres protected; and Reach C, on the east bank from Phoenix to Bohemia (construction recently completed by local agency with credit given as equivalent work), 16 miles, 5,470 acres protected, and construction of a barrier levee on the east bank of the Mississippi River from Bohemia to mile 10 AHP with enlargement of the west bank Mississippi River levee from Fort Jackson to Venice, generally called the East Bank Barrier Levee plan. Reach B was later divided into two units, Reach B-1 from Empire to Fort Jackson and Reach B-2 from Fort Jackson to Venice, LA, as a result of a request made by the local agency.

Estimated cost of new work (October 1983) is $132,300,000 Federal and $56,700,000 non-Federal, including $45,481,000 cash contributions or equivalent work.

Local cooperation. Provide all lands, easements and rights-of-way including borrow areas and spoil disposal areas necessary for the construction of the project, at costs presently estimated at $4,427,000; accomplish all necessary alterations and relocations to roads, pipelines, cables, wharves and other facilities required by the construction of the project at costs presently estimated at $6,792,000; bear 30 percent of the first cost, a sum presently estimated at $56,700,000, and cash contribution presently estimated at $45,481,000 to be paid either in a lump sum prior to initiation of construction or in installments prior to start of pertinent work items, in accordance with construction schedules as required by the Chief of Engineers, or as a substitute for any part of the cash contribution, accomplish in accordance with approved construction schedules items of work of equivalent value as determined by the Chief of Engineers, the final apportionment of costs to be made after actual costs and values have been determined; hold and save the United States free from damages due to the construction works; maintain and operate all works after completion in accordance with regulations prescribed by the Secretary of the Army; prevent any encroachment on ponding areas unless substitute storage capacity or equivalent pumping is provided promptly; and at least annually, notify those affected that the project will not provide complete protection from tidal flooding and that further local actions must be taken during hurricane emergencies.

Local interests are also required to comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (PL 91-646), in acquiring real property.

PL 91-611. Not applicable. Construction started prior to Jan. 1, 1972.

PL 91-646. A constitutional amendment was provided by the Louisiana legislature on Feb. 1, 1972 allowing local interests to comply. The estimated cost to local interests is $48,000.

Assurances of local cooperation for Reaches A, B-1, B-2 and C, requested on Jan. 7, 1963, were furnished by the Plaquemines Parish Commission Council on Mar. 6, 1964. Required supporting papers were furnished on Mar. 16, 1965 and accepted. Supplemental assurances covering the requirements of PL 91-646 were received from Plaquemines Parish Commission Council on May 23, 1973 and accepted on Jun. 20, 1973.

Assurances for the entire project have been furnished and accepted, although they do not specifically mention the East Bank Barrier Levee Plan. The scope of the project has not changed; however, local interests were requested to furnish separate assurances for the East Bank Barrier Levee. These assurances have not yet been received.

There was a delay of approximately 26 months in the furnishing of assurances by local interests primarily because they desired that agreement on levee alinement be consummated as fully as possible before giving their assurance. Problems of assurance of local cooperation have been resolved and rights-of-way were furnished for the first two Reach B-1 items of work on Aug. 23, 1968 and May 20, 1970, respectively.

All negotiations for relocations are the responsibility of local interests. These mainly consist of raising several petroleum and natural gas pipelines to the levee configuration and relocation of privately owned frame structures used as fishing and boating camps. To assure that there will be no delay in construction of levees, local interests are notified well in advance so that the owners of the pipelines can be advised.

Assuring Agency: Plaquemines Parish Commission Council. Assurances for all reaches of the project, except the East Bank Barrier levee, have been furnished.

Operations and results during fiscal year. New work by hired labor: Planning for this project and engineering studies continued.

Reach B-2, second enlargement, was awarded Jul. 29, 1982, and completed May 4, 1983. A second contract for Reach B-2, Sta. 244+000 to Sta. 473+58, second enlargement, was initiated May 11, 1983. Grand Liard floodwall Reach B-1, was awarded Jul. 18, 1983.

Condition as of Sep. 30. Construction began on the project in September 1968 and the total project is approximately 40 percent complete. First lift construction is complete on Reaches B-1 and B-2 and the first enlargement is completed for a portion of Reach B-1. Second lift construction is complete on Reach C. Initial construction on Reach A is scheduled to begin in FY 1985. Initial construction on the East Bank Barrier is not scheduled, pending the furnishing of assurances by local interest.

26. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Various hurricane protection projects, as well as small flood control projects, were inspected during FY 1983. Also, periodic inspection and continuing evaluation of completed civil works structures was conducted in accordance with ER 1110-2-100, at various times during the year on an as-needed basis.

Fiscal year costs for the period were $221,916. Total costs to Sep. 30, 1983, were $1,260,978.

27. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Disaster preparedness, FY costs for the period were $126,899. Emergency Operations: Total costs to Sep. 30, 1983, were 126,899.

General Investigations

28. ACTIVE INVESTIGATIONS

See Table 11-J which covers: Surveys, Collections and study of basic data, and Research and Development activities.

NEW ORLEANS, LA, DISTRICT

TABLE 11-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
1.	Aquatic Plant Control Program, LA	New Work					
		Approp.	$ 445,000	$ 450,000	$ 300,000	$ 487,000	$ 9,369,460
		Cost	549,853	424,684	312,947	499,145	9,366,872
2.	Atchafalaya River Bayous Chene, Boeuf, and Black, LA	New Work					
		Approp.	550,000	15,500,000	1,150,000	-	30,850,000
		Cost	351,901	15,644,334	704,955	43, 957	30,322,441[1]
		Maint.					
		Approp.	1,202,100	3,565,000	2,053,000	4,592,000	28,866,981[2]
		Cost	2,299,847	3,576,990	1,994,623	4,633,396	28,842,839[2]
	(Contrib. Funds)	New Work					
		Contrib.	-	628,000	148,750	-	1,483,812[3]
		Cost	138,866	630,835	150,540	-	1,483,812[4]
3.	Barataria Bay	New Work					
		Approp.	-	-	-	-	1,572,685[5]
		Cost	-	-	-	-	1,572,685[5]
		Maint					
		Approp.	184,220	305,000	2,320,000	490,000	13,836,856[6]
		Cost	182,149	307,580	224,389	2,598,462	13,802,466[6]
4.	Bayou Lafourche and Lafourche-Jump Waterway, LA	New Work					
		Approp.	-30,600	-	-	-	1,624,424[7]
		Cost	199	2,817	-	-	1,624,424[7]
		Maint.					
		Approp.	-	-	-	-	829,756[8]
		Cost	-	-	-	-	829,756[8]
5.	Bayou Teche & Vermilion River, LA	New Work					
		Approp.	-	-	-	-	2,891,822
		Cost	-	-	-	-	2,891,822
		Maint.					
		Approp.	125,970	40,000	39,000	-	1,627,724
		Cost	131,865	55,498	39,291	-	1,627,725
6.	Bayou Teche, LA	New Work					
		Approp.	-	-	-	-	754,330[9]
		Cost	-	-	-	-	754,330[10]
		Maint.					
		Approp.	116,910	137,000	202,000	152,130	3,751,715
		Cost	123,167	128,135	110,272	240,600	3,733,569
7.	Calcasieu River and Pass, LA	New Work					
		Approp.	-	-	-	-	27,807,310[11]
		Cost	-	-	-	-	27,807,310[11]
		Maint.					
		Approp.	10,552,980	8,285,000	1,885,000	9,125,130	74,571,879[12]
		Cost	8,699,203	11,262,008	914,539	10,066,491	74,472,137[12]
	(Contrib. Funds)	New Work					
		Contrib.	282,774	155,000	-	-	437,774
		Cost	-	437,774	-	-	437,774
8.	Freshwater Bayou, LA	New Work					
		Approp.	-	-	-	-	7,116,224[13]
		Cost	-	-	-	-	7,116,224[13]
		Maint.					
		Approp.	2,665,265	814,000	1,670,000	320,000	12,513,765
		Cost	1,825,010	1,392,685	1,693,519	598,300	12,513,706

TABLE 11-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
9.	Gulf Intracoastal Waterway between Apalachee Bay, FL & Mexican Border (New Orleans Dist.)	New Work					
		Approp.	-	-	-	-	63,654,535[14,15,16]
		Cost	-	-	-	-	63,284,470[14,15,16]
		Maint.					
		Approp.	7,660,000	4,875,000	15,876,100	10,524,486	148,062,732[17, 19]
		Cost	7,122,203	6,837,829	13,242,263	12,391,442	147,205,557[18, 19]
10.	Houma Navigation Canal, LA	Maint.					
		Approp.	1,350,000	2,540,000	2,888,000	1,744,900	15,466,634
		Cost	1,344,029	2,505,334	284,901	4,181,328	15,253,526
11.	Leland Bowman Lock, LA (Replacement of lock)	New Work					
		Approp.	50,000	495,200	6,029,800	14,000,000	21,875,010[20]
		Cost	389,709	544,814	6,058,840	12,697,628	20,529,644[20]
12.	Mermentau River, LA	New Work					
		Approp.	-	-	-	-	4,561,910[21]
		Cost	29,204	3,766	-	-	4,672,579[21]
		Maint.					
		Approp.	501,250	700,000	1,050,900	555,000	12,334,312[22]
		Cost	623,433	743,669	1,013,415	562,024	12,293,003[22]
13.	Mississippi River, Baton Rouge to the Gulf of Mexico, LA	New Work					
		Approp.	910,000	884,800	-	900,000	40,111,797[23]
		Cost	658,241	977,150	-	1,545,117	40,531,406[23]
		Maint.					
		Approp.	27,363,000	24,122,100	30,268,000	45,611,260	355,496,324[24, 26]
		Cost	27,449,447	24,581,150	29,826,943	43,786,783	353,059,466[25, 26]
14.	Mississippi River-Gulf Outlet, LA	New Work					
		Approp.	1,300,000	1,780,000	1,235,200	2,005,000	78,640,200
		Cost	901,609	1,758,067	1,472,670	1,027,035	77,431,167
	(Regular Funds)	Maint.					
		Approp.	1,572,500	7,109,200	8,754,000	11,048,000	81,516,580
		Cost	1,522,856	7,134,791	4,349,480	14,717,186	80,745,812
	(Contrib. Funds)	New Work					
		Contrib.	-	-	-	-	1,118,977[27]
		Cost	-	-	-	-	1,118,977[27]
15.	Mississippi River Outlets, Venice, LA	New Work					
		Approp.	-4,000	-	-	-2,900	10,008,093
		Cost	36,320	16,900	-578	340	10,008,100
		Maint.					
		Approp.	892,800	196,000	926,000	2,196,000	4,395,800
		Cost	1,004,548	190,910	863,216	2,227,642	4,356,130
	Overton-Red River Waterway, LA	New Work					
		Approp.	5,600,000	3,419,000	4,974,500	-	27,427,022[32]
		Cost	5,763,945	3,283,472	5,129,335	9,299	27,427,022[32]
	Red River Emergency Bank Protection	New Work					
		Approp.	5,000,000	5,890,000	6,000,000	-164,000	46,784,000[32]
		Cost	5,037,194	5,917,017	4,101,980	1,669,746	46,561,950[32]
	(Contrib. Funds)	New Work					
		Contrib.	-	-	-	-	6,825
		Cost	-	-	-	-	6,825

NEW ORLEANS, LA, DISTRICT

TABLE 11-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
	Red River Waterway-Mississippi River to Shreveport, LA	New Work					
		Approp.	66,700,000	88,500,000	36,500,000	144,000	332,332,000[32]
		Cost	66,088,853	74,633,085	50,445,943	2,181,516	332,332,002[32]
		Maint.					
		Approp.	36,497	1,015,000	1,327,800	-	4,700,947
		Cost	210,986	1,382,191	1,355,419	-	4,700,866
	(Contrib. Funds)	New Work					
		Contrib.	216,720	-	-	-	483,461
		Cost	217,943	-	-	-	483,461
16.	Removal of Aquatic Growth, LA	Maint.					
		Approp.	1,163,000	976,000	1,158,000	1,387,200	19,122,808
		Cost	984,300	1,177,002	1,084,984	1,440,032	19,101,114
17.	Tangipahoa River, LA	Maint.					
		Approp.	20,840	159,000	-	-	568,154
		Cost	20,833	158,404	-	-	567,551
18.	Waterway from Intracoastal Waterways to Bayou Dulac, LA (Bayou Grand Caillou & LeCarpe, LA)	New Work					
		Approp.	-	35,000	130,000	75,000	369,622
		Cost	-	37,242	86,341	111,102	364,307
		Maint.					
		Approp.	190,000	135,000	200,000	-	888,762
		Cost	39,613	295,526	201,472	-	888,762
	Bayou Bodcau and tributaries, AR & LA	New Work					
		Approp.	300,000	120,000	500,000	11,000	4,418,000
		Cost	129,196	274,326	459,713	152,937	4,418,000
	Bayou Bodcau Reservoir, LA	New Work					
		Approp.	-	-	-	-	4,208,417[32]
		Cost	-	-	-	-	4,208,417[32]
		Maint.					
		Approp.	275,050	370,000	184,000	-	2,841,807
		Cost	265,025	365,191	211,580	2,100	2,841,807
	Bayou Pierre, LA	New Work					
		Approp.	-	-	-	-	299,529[28, 32]
		Cost	-	-	-	-	299.529[28, 32]
		Maint.					
		Approp.	9,370	21,000	12,600	-	552,680
		Cost	14,142	20,768	12,832	-	552,680
	Brush Bayou, LA	New Work					
		Approp.	-120,000	182,000	-	-	966,660[32]
		Cost	35,853	194,071	34,315	22,316	996,599[29]
	(Contrib. Funds)	New Work					
		Contrib.	-	460,000	304,000	-	1,134,200[29]
		Cost	49,424	496,062	306,913	-	1,134,199
	Caddo Lake, LA	New Work					
		Approp.	-	-	-	-	3,587,143[32]
		Cost	-	-	-	-	3,587,143[32]
		Maint.					
		Approp.	91,860	127,000	104,200	-	520,060
		Cost	115,636	119,642	114,316	3,816	520,059

TABLE 11-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
20.	Grand Isle and Vicinity, LA	New Work					
		Approp.	182,000	100,000	105,000	3,000,000	3,749,500
		Cost	174,535	111,558	41,937	226,231	902,090
21.	Lake Pontchartrain and vicinity, LA (Hurricane Protection) (Regular Funds)	New Work					
		Approp.	13,320,000	8,800,000	13,000,000	13,716,000	141,280,000
		Cost	12,672,174	8,811,248	13,720,371	13,510,392	140,580,443
	(Contrib. Funds)	New Work					
		Contrib.	209,409	140,950	166,000	313,124	3,290,184
		Cost	122,400	205,564	186,400	356,602	3,331,676
22.	Larose to Golden Meadow, LA (Hurricane Protection)	New Work					
		Approp.	2,885,000	815,000	2,100,000	9,870,000	26,402,000
		Cost	2,931,867	1,075,688	1,407,390	7,734,710	23,536,954[30]
	(Contrib. Funds)	New Work					
		Contrib.	298,721	1,101,000	-	-	2,089,721
		Cost	218,191	1,146,938	6,139	-	2,061,268
23.	McKinney Bayou, AR, and TX	New Work					
		Approp.	155,000	255,000	-	-	1,622,263
		Cost	118,085	284,162	13,482	-	1,631,263
24.	Morgan City and vicinity, LA (Hurricane Protection)	Approp.	-	200,000	250,000	384,000	1,365,000
		Cost	-	198,700	71,500	541,000	1,365,000
25.	Mississippi River Delta at and below New Orleans, LA (New Orleans to Venice, LA, Hurricane Protection) (Regular Funds)	New Work					
		Approp.	638,000	1,830,000	1,535,000	3,450,000	48,639,000
		Cost	534,233	1,994,914	1,864,215	2,515,286	47,657,946
	(Contrib. Funds)	New Work					
		Contrib.	-	-	-	3,050,000	3,416,430
		Cost	86,569	-	-	2,600,000	2,966,430
	Red River below Denison Dam, Levees and Bank Stabilization (New Orleans Dist.)	New Work					
		Approp.	4,365,000	2,000,000	2,379,300	-	50,389,300[31, 32]
		Cost	5,568,162	1,067,597	2,576,517	796,243	50,389,300[31, 32]
	Red River Waterway, Shreveport, LA, to Index, AR	New Work					
		Approp.	150,000	23,000	-	-	688,000[32]
		Cost	112,393	94,340	5,057	-	688,999[32]
	Wallace Lake, LA	New Work					
		Approp.	-	-	-	-	1,219,371[32]
		Cost	-	-	-	-	1,219,371[32]
		Maint.					
		Approp.	160,740	133,000	277,800	-	1,717,240
		Cost	162,454	132,832	285,901	3,962	1,717,240

TABLE 11-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
	West Agurs, LA	New Work					
		Approp.	50,000	137,000	-	-	187,000[32]
		Cost	48,939	101,334	-	-	150,273[32]

1. Includes $37,348 for advance engineering and design.

2. Includes any maintenance costs on Atchafalaya River, Morgan City to Gulf of Mexico, LA.

3. Includes allotment of $340,000 for Code 300.

4. Includes expenditures of $335,375 for Code 300.

5. Includes $73,037 for previous project. Excludes $2,000 contributed funds expended.

6. Includes $47,551 for previous project.

7. Includes $252,935 for previous projects; excludes $75,563 expended for rehabilitation (Code 820) in Fiscal Year 1961.

8. Includes $15,445 for previous projects.

9. Includes $45,704 for previous projects.

10. Includes $91,389 permanent indefinite appropriation.

11. Includes $495,914 for previous project; excludes $107,837 expended for minor rehabilitation in Fiscal Year 1963.

12. Includes $194,851 for previous project.

13. Excludes $16,060 contributed funds.

14. Includes $4,320,698 for new work on previous project. Included in these totals are $353,541 N.I.R.A. funds (new work); and $1,070,433 permanent indefinite appropriation. Included is repayment of advance funds for construction of Franklin Canal in the amount of $35,103. In addition, $1,413,133 was expended for transfer to drainage district of ownership of Plaquemines Parish pumping station, and drainage canals and all drainage responsibility and obligations vested in the United States by Public Law 14, 79th Cong., 1st sess.

15. Excludes contributed funds of $340,159.

16. Inner Harbor Navigation Canal Lock was constructed at a cost of $8,648,492 (non-Federal).

17. Does not include allotment of $60,000 (9613123).

18. Does not include expenditures of $36,630 (9613123).

19. Includes $454,259 for maintenance and $548,948 for operation and care for previous project, including $75,000 from appropriation for maintenance and operation of dam and other improvements of navigable waters. Excludes $7,005 contributed funds.

20. Includes AE&D funds for replacement of Vermilion Lock.

21. Excludes $10,904 for new work on White Lake to Pecan Island section of existing project.

22. Excludes $10,742 for maintenance on White Lake to Pecan Island section of existing project. Excludes $2,000 contributed funds. Includes $13,163 of R&H funds and $109,714 accelerated Public Works Act funds.

23. Includes $1,729,989 for previous project.

24. Does not include allotment of $40,000 (9613123).

25. Does not include expenditures of $63,370 (9613123).

26. Includes $169,055 for previous projects and $3,379,676 from permanent indefinite appropriation.

27. Contributed by Board of Commissioners, Port of New Orleans, for providing fill for future industrial sites adjacent to turning basin and for dredging cable and pipeline crossings.

28. Includes $38,529 from emergency relief funds.

29. Includes $80,500 for preauthorized studies.

30. Includes $67,823 for advance engineering and design.

31. Includes $212,105 expended by Tulsa District for cost of Index, Ark., Tex. unit. Excludes $100,000 contributed funds expended.

32. Projects transferred to Vicksburg District in FY 82. Costs reflect New Orleans portion only. Vicksburg District will furnish their costs for the remainder of FY 82 (See Chapter 12).

TABLE 11-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	AQUATIC PLANT CONTROL PROGRAM, LA (See Sec. 1 of Text)	
Jul. 3, 1958	Control and progressive eradication of water-hyacinth alligator weed, and other obnoxious aquatic plant growth from navigable waters in tributary streams, connecting channels, and other allied waters in southeastern United States.	H. Doc. 37, 85th Cong., 1st sess.
Oct. 23, 1962	Research and planning costs prior to construction to be borne fully by the United States and not included in costs shared by local interests.	Public Law 874, 87th Cong., 2d sess.
Oct. 27, 1965	Provides for comprehensive program for control and progressive eradication of water-hyacinth, alligatorweed, Eurasian water milfoil, and other obnoxious plant growths from navigable waterways, tributary streams, connecting channels, and other allied waters of the United States.	Public Law 298, 89th Cong., 2d sess.
	ATCHAFALAYA RIVER, BAYOUS CHENE, BOEUF, AND BLACK, LA (See Sec. 2 of Text)	
Aug. 13, 1968	20 by 400-foot navigation channels connecting Gulf Intracoastal Waterway, Gulf of Mexico, and Bayous Chene, Boeuf, and Black.	H. Doc. 155, 90th Cong., 1st sess.
Water Resources Development Act, Mar. 7, 1974	The non-Federal interests shall contribute 25 percentum of the costs of areas required for initial and subsequent disposal of spoil, and of necessary retaining dikes, bulkheads, and embankments therefor. This requirement shall be waived if applicable waste treatment facilities are constructed and water quality standards are not being violated.	Public Law 93-251. Sec. 58, 93rd Cong., 2d sess.
	BARATARIA BAY WATERWAY, LA (See Sec. 3 of Text)	
Jul. 3, 1958	A channel about 37 miles long with a 12-foot depth and 125-foot width from Gulf Intracoastal Waterway to Grand Isle, LA, to mile 15.5 in Bayou St. Denis; a channel along western shore of Barataria Bay and through Barataria Pass to 12-foot depth contour in the gulf, with an extension of project to include westerly 4.3 miles of Bayou Rigaud.	H. Doc. 82, 85th Cong., 1st sess.
	BAYOU LAFOURCHE AND LAFOURCHE-JUMP WATERWAY, LA (See Sec. 4 of Text)	
Aug. 30, 1935	Permanent closure of head of bayou, without a lock; a channel 6 feet deep and 60 feet wide from Gulf Intracoastal Waterway at Larose to Gulf of Mexico by Belle Pass; closure of Pass Fourchon; and a jettied entrance at mouth of Bell Pass.	H. Doc. 45, 73d Cong., 1st sess.
Jul. 14, 1960	Auxiliary channel 12 by 125 feet from Gulf Intracoastal Waterway (mile 37.2) to Bayou Lafourche vicinity Leeville 12-by 125-foot channel improvement in Bayou Lafourche from Leeville to 12-foot contour in Gulf of Mexico; 9- by 100-foot channel improvement in Bayou Lafourche from Leeville to Golden Meadow; 12- by 125-foot channel from Leeville through Southwestern Louisiana Canal to and through Bayou Rigaud; and restore and extend jetties from 6- by 12-foot contour when justified to effect reduction in maintenance dredging.	H. Doc. 112, 8th Cong. 1st sess.[1]
Nov. 22, 1967	Bayou Lafourche, between Canal Boulevard in Thibodaux, Lafourche Parish, LA, and the head of the bayou at its junction with the Mississippi River levee and Donaldsonville, Ascension Parish, LA, is declared nonnavigable.	Public Law 90-149.
	BAYOU TECHE AND VERMILION RIVER, LA (See Sec. 5 of Text)	
Aug. 18, 1941	A navigable channel 51 miles long and 8 by 80 feet from 8-foot-depth contour in Vermilion Bay to Gulf Intracoastal Waterway, thence 9 by 100 feet to head of navigation (mile 52) at Lafayette, LA, with additional enlargement below Abbeville necessary to provide adequate capacity for flood flows.	S. Doc 93, 77th Cong., 1st sess.[1]
	BAYOU TECHE, LA (See Sec. 6 of Text)	
Sep. 19, 1890	Improve stream from its mouth to St. Martinville by removing obstructions and dredging.	Annual Report, 1889, p. 1532.
Mar. 2, 1907	Construct lock and dam and extend improvement to Arnaudville, LA.	H. Doc. 527, 59th Cong., 1st sess.
Mar. 2, 1919	Increase channel dimensions from mouth to Keystone Lock.	H. Doc. 1329, 62d Cong., 3d sess.[2]

TABLE 11-B (Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
June. 26, 1934[3]	Operation and care of lock and dam provided for with funds from War Department appropriations for rivers and harbors.	
	CALCASIEU RIVER AND PASS, LA (See Sec. 7 of Text)	
Aug. 26, 1937	Channel 30 by 250 feet from Lake Charles docks to gulf, repair and extend existing jetties to about 10-foot-depth contour, with a channel 30 by 250 feet between jetties; dredging approach channel 32 by 400 feet in gulf from sea ends of jetties to 32-foot-depth contour; and provision for extension of jetties to 15-foot-depth contour, if such action would be more economical than maintenance of approach channel by dredging.	H. Doc. 299, 75th Cong., 1st sess.
Mar. 2, 1945	Channel 30 by 250 feet around Clooney Island.	H. Doc. 465, 77th Cong., 1st sess.
Jul. 24, 1946	Channel depth of 35 feet from wharves of Lake Charles Harbor and terminal district, including Clooney Island Loop, to jetty channel, a uniformly increasing depth of 35 to 37 feet in jetty channel, and a depth of 37 feet in approach channel in Gulf of Mexico.	S. Doc. 190, 79th Cong., 2d sess.
Jul. 14, 1960	An approach channel 42 by 800 feet from end of jetty to 42-foot contour in gulf; a jetty channel 400 feet wide, varying from 40 feet deep at shoreline to 42 feet deep at seaward end of jetty; a channel 40 by 400 feet from shoreline (mile 0) to Port of Lake Charles (mile 34.4); enlarge existing turning basin at mile 29.6 to 40 feet deep; a mooring basin (mile 3) 350 by 2,000 by 40 feet; a 35- by 250-foot extension of existing ship channel from Port of Lake Charles (mile 34.4) to vicinity of U.S. Highway 90 Bridge; a turning basin at upper terminus, 750 by 1,000 by 35 feet; and maintenance of 12- by 200-foot channel from ship channel to Cameron, LA.	H. Doc. 436, 86th Cong., 2d sess.
	FRESHWATER BAYOU, LA (See Sec. 8 of Text)	
Jul. 14, 1960	A new 12- by 125-foot channel from Gulf Intracoastal Waterway, mile 161.2 west of Harvey Lock to 12-foot contour in Gulf of Mexico near Freshwater Bayou; construction of an 84- by 600-foot lock with a depth of 16 feet over sill near Gulf of Mexico; and construction of jetties from shoreline to 6-foot-depth contour in Gulf of Mexico, if maintenance dredging of channel without jetties proves to be more expensive than construction and maintenance of jetties. Until such determination has been made, offshore channel should be dredged and maintained to provide a 12- by 250-foot channel. In event jetties are provided, offshore section should then be maintained to 12- by 125-foot project in jettied reach, and 250 feet beyond.	H. Doc. 435, 86th Cong., 2d sess.[1]
	GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL, AND MEXICAN BORDER (NEW ORLEANS DISTRICT) (See Sec. 9 of Text)	
Mar. 3, 1925	Construct waterway from New Orleans, LA, to Galveston Bay, TX	H. Doc. 238, 68th Cong., 1st sess.
Jan. 21, 1927	Extension of waterway to Corpus Christi, TX	H. Doc. 238, 68th Cong., 1st sess.
Jul. 3, 1930	A channel 9 by 100 feet from Lake Pontchartrain to Mississippi Sound.	H. Doc. 341, 71st Cong., 2d sess.
Jun. 26, 1934[3]	Operation and care of locks and dams provided for with funds from War Department appropriations for rivers and harbors.	
Jul. 23, 1942	Enlarge waterway from 9 by 100 feet to 12 by 125 feet from Apalachee Bay, FL, to Corpus Christi, TX, and its extension to vicinity of Mexican border, except between Mobile Bay, AL, and New Orleans, LA, where width shall be 150 feet; and rental of Inner Harbor Navigation Canal facilities.	H. Doc. 96, 79th Cong., 1st sess.; H. Doc 230, 76th Cong., 1st sess.[5]
Mar. 2, 1945	Alternative connection with Mississippi River in vicinity of Algiers at New Orleans.	S. Doc. 188, 78th Cong., 2d sess.
Jul. 24, 1946	Enlarge and extend Plaquemine-Morgan City route from Mississippi-Atchafalaya section of waterway, in vicinity of Morgan City, to and through a new terminal lock and entrance channel to Mississippi River in vicinity of Port Allen, opposite lower limit of Port of Baton Rouge.	S. Doc. 242, 79th Cong., 2d sess.

TABLE 11-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Jul. 24, 1946	Restore, improve, and maintain Franklin Canal as a terminal branch channel, 8 by 60 feet, from its confluence with Gulf Intracoastal Waterway to Franklin, LA.	S. Doc. 189, 79th Cong., 2d sess.
Jul. 24, 1946	A salt-water guard lock in waterway at mile 238 west of Harvey Lock.	S. Doc. 231, 79th Cong., 2d sess.
Oct. 23, 1962	Enlarge waterway to 16 by 150 feet from Mississippi River to Atchafalaya River, except in vicinity of Houma (mile 50.5 to 63.5); of Houma bypass (mile 50.5 to 63.5) and of Algiers alternative canal; and enlarge waterway from Atchafalaya River to Sabine River to 16 by 200 feet.	H. Doc. 556, 87th Cong., 2d sess.
Oct. 22, 1976	Replacement of Vermilion Lock, in accordance with the recommendations of the Chief of Engineers in the report dated Aug. 3, 1976, recommending a lock size of 110 feet wide by 1,200 feet long by 15 feet deep.	Sec. 114 Water Resources Development Act of 1976 (PL 94-587) 2d sess.
	HOUMA NAVIGATION CANAL, LA (See Sec. 10 of Text)	
Oct. 23, 1962	Assumption of maintenance and operation of Houma Navigation Canal, constructed by Terrebonne Parish, to dimensions of 15 by 150 feet.	H. Doc. 583, 87th Cong., 2d sess.[1]
	LELAND BOWMAN LOCK, LA (REPLACEMENT OF LOCK) (FORMERLY VERMILION LOCK) (See Sec. 11 of Text)	
WRD Act of 1976, dated Oct. 22, 1976 (PL 94-587)	A replacement lock, 110 feet wide and 1,200 feet long, to accommodate present and projected marine traffic.	Approved by Secretary of the Army, May 1967, under authority of the R&H Act of 1909.
	MERMENTAU RIVER, LA (See Sec. 12 of Text)	
Aug. 18, 1941	Channel enlargement, lower Mermentau River, from mile 15 to Gulf of Mexico, and construction of a lock and control spillway at Catfish Point, mile 24.	S. Doc. 94, 77th Cong., 1st sess.
Jul. 24, 1946	Channel enlargement; lower Mermentau River below Grand Lake, mile 25; construct a gated-control structure at or near Grand Cheniere, mile 7; enlarge and realine Inland Waterway from Franklin, LA, to Mermentau River, LA, from Vermilion Bay to White Lake, via new channel, and from White Lake to Grand Lake; enlarge channel of North Prong of Schooner Bayou; construct a gated-control structure in new channel near Schooner Bayou lock; and include project "Waterway from White Lake to Pecan Island, LA," and portion of project "Inland Waterway from Franklin, LA, to Mermentau River," west of Vermilion Bay in modified project "Mermentau River, LA."	S. Doc. 231, 79th Cong., 2d sess.
	MISSISSIPPI RIVER, BATON ROUGE TO GULF OF MEXICO, LA (See Sec. 13 of Text)	
Mar. 2, 1945	Combines projects of Mississippi River, Baton Rouge to New Orleans, Mississippi River, South Pass, and Southwest Pass, adding thereto project for Mississippi River from New Orleans to Head of Passes, to provide a single project, "Mississippi River, Baton Rouge to the Gulf of Mexico," with channel dimensions as follows: Baton Rouge to New Orleans, 35 by 500 feet; port limits of New Orleans, 35 by 1,500 feet; New Orleans to Head of Passes, 40 by 1,000 feet, Southwest Pass, 40 by 800 feet; Southwest Pass Bar Channel, 40 by 600 feet; South Pass, 30 by 450 feet; South Pass Bar Channel 30 by 600 feet.	H. Doc. 215, 76th Cong., 1st sess.[1]
Oct. 23, 1962	Deepen existing channel from 35 to 40 feet by 500 feet wide from one-tenth mile below Louisiana Highway Commission bridge at Baton Rouge to upper limits of Port of New Orleans, and also 40 by 500 feet within presently authorized 35- by 1,500-foot channel in port limits of New Orleans.	S. Doc. 36, 87th Cong., 1st sess.

TABLE 11-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	MISSISSIPPI RIVER-GULF OUTLET, LA (See Sec. 14 of Text)	
Mar. 29, 1956	Construct a seaway canal 36 feet deep and 500 feet wide from Michoud to 38-foot contour in gulf and an inner tidewater harbor consisting of a 1,000- by 2,000-foot turning basin 36 feet deep and a connecting channel 36 feet deep and 500 feet wide to Inner Harbor Navigation Canal and provides, when economically justified, for construction of a lock to Mississippi River in the vicinity of Meraux, LA.	H. Doc. 245, 82d Cong., 1st sess.
Oct. 22, 1976	Amends above Act making the construction of bridge relocations a Federal responsibility when required by the construction of the Mississippi River-Gulf Outlet channel.	Sec. 186, Water Resources Development Act of 1976 (PL 94-587) 2d sess.
	MISSISSIPPI RIVER OUTLETS, VENICE, LA (See Sec. 15 of Text)	
Aug. 13, 1968	Enlargement of existing channels of Baptiste Collette Bayou and Grand-Tiger Passes to 14 by 150 feet with 16 by 250-foot entrance channels in open water and jetties, if justified.	H. Doc. 304, 90th Cong., 2d sess.
	REMOVAL OF AQUATIC GROWTH, LA (See Sec. 16 of Text)	
Mar. 3, 1899	Appropriations for Florida and Louisiana for extermination or removal of plants, building of boats, and establishment of booms.	H. Doc. 91, 55th Cong., 3d sess.
Jun. 13, 1902	Authorized use of mechanical, chemical, or other means whatsoever.	
Jul. 25, 1912	Made appropriation available for State of Mississippi and also made available for use in that State operating plant pertaining to work in Louisiana.	
	TANGIPAHOA RIVER, LA (See Sec. 17 of Text)	
Jun. 10, 1872	Improvement, without dredging, by removing overhanging trees, snags, and obstructions to navigation from Wells to mouth.	H. Ex. Doc. 54, 46th Cong., 2d sess., and Annual Report, 1871, p. 553.
Jun. 14, 1880	Present project above entrance channel.	Annual Report, 1879, p.946.
Jun. 14, 1960	8- by 100-foot entrance channel from 8-foot depth contour in Lake Pontchartrain to 8-foot depth in River.	Authorized by Chief of Engineers Jul. 28, 1967, under Sec. 107 of 1960 River and Harbor Act, as amended.
	WATERWAY FROM INTRACOASTAL WATERWAY TO BAYOU DULAC, LA (Bayous Grand Caillou and LeCarpe, LA) (See Sec. 18 of Text)	
Aug. 30, 1935	Channel 5 by 40 feet from Intracoastal Waterway at Houma through Bayou LeCarpe, Bayou Pelton, and Bayou Grand Caillou to Bayou Dulac, about 16,3 miles.	H. Doc. 206, 72d Cong., 1st sess.
Oct. 23, 1962	Channel 10 by 45 feet in Bayou LeCarpe from Gulf Intracoastal Waterway to Houma navigation canal.	
	GRAND ISLE AND VICINITY, LA (See Sec. 20 of Text)	
Adopted by Committee Resolutions Sep. 23, 1976, and Oct. 1, 1976[3]	To provide hurricane protection by placement of a berm and vegetated dune extending the length of Grand Isle's gulf shore and a jetty to stabilize the western end of the island at Caminada Pass.	H. Doc. 639, 94th Cong., 2d sess.
	LAKE PONTCHARTRAIN AND VICINITY, LA (HURRICANE PROTECTION) (See. Sec. 21 of Text)	
Oct. 27, 1965	Control of hurricane tides by construction of two independent units, the Lake Pontchartrain Barrier plan and the Chalmette Area plan.	H. Doc. 231, 89th Cong., 1st sess.

TABLE 11-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION) (See Sec. 22 of Text)	
Oct. 27, 1965	A loop levee about 36 miles long along both banks of Bayou Lafourche from Golden Meadow to Larose; enlargement of 3 miles of existing levee at Golden Meadow; floodgates for navigation and hurricane protection in Bayou Lafourche at upper and lower bayou crossings; about 8 miles of low interior levees to regulate intercepted drainage; and seven multibarreled culverts controlled by flapgates.	H. Doc. 184, 89th Cong., 1st sess.[1]
	MCKINNEY BAYOU, AR AND TX (See Sec. 23 of Text)	
Oct. 22, 1976	Provides channel enlargement of McKinney Bayou; outlet channels to Red River; interior drainage channels; and four flood flow structures by USDA.	H. Doc. 647, 94th Cong., 2d sess.
	MORGAN CITY AND VICINITY, LA, HURRICANE PROTECTION (See Sec. 24 of Text)	
Oct. 27, 1965	Construction of new levees along Lake Palourde and Bayou Ramos, levee to tie-in with Bayou Boeuf lock levee and three gravity drainage structures in Morgan City unit and enlargement of bank levee, construction of new levee, and construction of one floodgate and five gravity drainage structures in Franklin and vicinity unit.	H. Doc. 167, 89th Cong., 1st sess.
	NEW ORLEANS TO VENICE, LA, HURRICANE PROTECTION (See Sec. 25 of Text)	
Oct. 23, 1962	Improvements along Mississippi River below New Orleans, LA, for prevention of hurricane tidal flood damages by increasing heights of existing back levees and modifying existing drainage facilities where necessary in five separate reaches.	H. Doc. 550, 87th Cong., 2d sess.

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1. Contains latest published map.
2. For latest published map, see H. Doc. 288, 66th Cong., 1st sess.
3. Permanent Appropriation Repeal Act.
4. Authorized under provision of Sec. 201 of Flood Control Act of 1965.
5. Not mentioned in authorizing act.

TABLE 11-C

BAYOU TECHE, LA, LOCKS
(See Sec. 6 of Text)

Pertinent Data

	Keystone Lock	Berwick Lock
Miles from	18 (New Iberia)	1.7 (Berwick, LA)
Miles from	82.5 (Intracoastal Waterway)	9 (Below mouth of Bayou Teche)
Width of chamber	36 feet	45 feet
Length available for full width	160 feet	300 feet
Lift	8 feet	0-14.5 feet
Depth on miter sill at mean low gulf level	8 feet	9
Character of foundation	Timber piles	Timber piles
Kind of dam	Timber, rockfill	-
Type of construction	Concrete	Reinforced concrete
Completed	1913	September 1951
Open to navigation	-	November 1950
Cost	$257,720	$2,100,000

TABLE 11-D

GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL, AND MEXICAN BORDER (NEW ORLEANS DIST.)—LOCKS

(See Sec. 9 of Text)

			Pertinent Data				Pertinent Data		
	Algiers Lock	Bayou Boeuf Lock	Bayou Sorrel Lock	Calcasieu Lock	Harvey Lock	Inner Harbor Navigation Canal Lock	Plaquemine Lock	Port Allen Lock	Vermilion Lock
Miles from New Orleans, LA (Canal St.)	7	96.6 (via Harvey Lock)	135 (via Harvey Lock)	-	3.3	2.9	-	132.5	-
Miles below Lake Charles, LA	-	-	-	16.6	-	-	-	-	-
Miles from Abbeville, LA	-	-	-	-	-	-	-	-	26
Miles from Mississippi River	0.38	56.7 (via Plaquemine Lock)	18 (via Plaquemine Lock)	-	0.13	0.6	-	0.23	-
Miles from Calcasieu River	-	-	-	0.5	-	-	-	-	-
Miles from Vermilion River	-	-	-	-	-	-	-	-	1.75
Width of chamber	75 feet	-	56 feet	-	75 feet	75 feet	-	84 feet	-
Width between abutments	-	75 feet	-	75 feet	-	-	-	-	56 feet
Length available for full width	800 feet	1,156 feet	797 feet	1,206 feet	425 feet	640 feet	-	1,202 feet	1,182 feet
Lift	0-18 feet	0-11.3 feet	0-21 feet	0-4 feet	0-19.6 feet	0-17.4 feet	-	0-45 feet	0-5 feet (either direction)
Depth on sill at mean low gulf level	13 feet	13 feet	14 feet	13 feet	12 feet (miter sill)	13.5 feet (miter sill)	-	13.75 feet (miter sill)	11.3 feet
Character of foundation	Timber piles	Concrete slab on medium of stiff clay	Timber piles	Concrete slab on preconstructed stiff clay	Timber piles	Timber piles	-	Concrete slab on clay	Timber piles

Type of construction	Reinforced concrete	Reinforced concrete gate bays and earth chamber	Reinforced concrete gate bays and earth chamber	Reinforced concrete gate bays and earth chamber	Reinforced concrete	Reinforced concrete	- -	Reinforced concrete	Reinforced concrete
Kind of dam	-	-	-	-	-	-	-	-	Reinforced concrete spillway dam, vertical cast steel gates, timber pile foundation
Opened to navigation	April 1956	September 1954	June 1951	December 1950	1934	February 1923	1909[1]	July 1961	1933
Cost	$5,215,700	$2,754,000 (Flood Control MR&T Funds)	$4,700,948 (Flood Control MR&T Funds)	$2,133,527	$1,775,132	$8,648,492 (non-Federal)	$1,302,006	$13,902,222	$330,765[2]
Completed	-	-	October 1952	-	1935	-	1909	July 1961	1934[3]

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[1] Closed permanently September 29, 1961.

[2] Replacement of lock approved by the Secretary of Army, May 16, 1967; estimated Federal cost $25,900,000.

[3] Transferred to project status. Contruction of replacement lock, scheduled for January 1980.

TABLE 11-E OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed Deauthorized or Reclassified
			Construction	Operation and Maintenance	
Alteration of Berwick Bay Bridge[1]	-	1967	$ -	$ -	-
Amite River and Bayou Manchac, LA	Complete	1978	28,234	69,087	1928
Atchafalaya River, Morgan City to Gulf of Mexico, LA	Complete	1981	501,963	-	1914
Baton Rouge Harbor, Segment between Mi. 2.5 and 5.0[2]	Deauthorized	1946[2]	-	-	Nov. 1979
Bayou Bonfouca, LA	Complete	1974	30.997	290,192	1931
Bayou Dorcheat, Loggy Bayou and Lake Bisteneau, LA[3, 4, 5, 6]	-	1887	5,000	-	-
Bayou Dupre, LA[7]	Complete	1968	38,915	104,187[7]	1939
Bayou Grosse Tete, LA[8]	Deauthorized		1969	123,454	May 1981
Bayou Lacombe, LA	Complete	1967	4,716	92,276	1938
Bayou La Lautre, St. Malo, and Yscolskey, LA	Complete	1970	96,916	223,616	May 1956
Bayou Plaquemine Brule, LA	Complete	1950	33,410	36,780	1915
Bayou Queue de Tortue, LA	Complete	1970	33,355	28,315	March 1923
Bayou Segnette Waterway, LA	-	1958	238,828	213,455	-
Bayou Terrebonne, LA[4, 9]	Complete	1961	120,089	251,691	1916
Bayou Vermilion, LA[4]	Complete	1947	34,900	200,169	1896
Big Pigeon and Little Pigeon Bayous, LA[3]	Complete	1936	-	37,169	[3]
Calcasieu River at Coon Island, LA[10]	Complete	1976	1,015,814[10]	-	April 1974
Calcasieu River at Devil's Elbow, LA	Complete	1981	5,856,200	-	Sep. 1978
Cascasieu River Salt Water Barrier, LA[11]	Complete	1973	4,197,262	-	Jan. 1968
Cane River, LA[3, 6]	-	1910	2,500	2,000	-
Chefuncte River and Bogue Falia, LA	Complete	1967	58,342	192,011	1959
Cypress Bayou and Waterway between Jefferson, TX, and Shreveport, LA[12]	Complete	1971	202,817	452,611	Dec. 1914
Grand Bayou Pass, LA	Complete	1950	7,676	14,480[12]	1939
Inland Waterway from Franklin to Mermentau River, LA[1, 13]	Complete	1960	249,052	552,780	[5]
Intracoastal Waterway from the Mississippi River to Bayou Teche, LA[14]	-	1956	-	11,699	-
Lake Borgne and Chef Menteur-Bulkheads and Jetties	Deauthorized	1942[2]	-	-	Nov. 1979
Lake Charles Deep Water Channel, LA[15]	-	1950	-	241,896	-
Little Caillou Bayou, LA	Complete	1973	77,76[illegible]	751,485	1929
Mermentau River, Bayou Nezpique, and Bay Des Cannes, LA	Complete	1977	5,197,975[16]	114,519	-
Mississippi River-Gulf Outlet, Michoud Canal, LA	Complete	1976	2,499,555	-	Nov. 1974
Navigation work under special authorization (Calcasieu Pass channel in Old River Bend at Cameron, LA)[17]	-	1957	-	139,755	-
Pass Manchac, LA	Complete	1950	1,374	10,039	1912
Petite Anse, Tigre, and Carlin Bayous, LA	Inactive	1981	-	811,172	Nov. 1980
Sulphur River, AR and TX[3, 6]	-	1919	45,989	-	-
Tickfaw, Natalbany, Ponchatoula, and Blood Rivers, LA[4]	Complete	1973	8,115	92,163	1921
Vinton Waterway, LA[21]	Deauthorized	1950	-	-	Nov. 1979

TABLE 11-E OTHER AUTHORIZED NAVIGATION PROJECTS (Continued)

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed Deauthorized or Reclassified
			Construction	Operation and Maintenance	
Waterway from White Lake to Pecan Island, LA[13]	-	1948	10,904	10,742	-
Waterway from Empire, LA, to Gulf of Mexico	Complete	1981	1,068,142	835,252	Jun. 1950

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1. Transferred to Department of Transportation. Authorized under Truman-Hobbs Act.
2. Date authorized.
3. Completed. Date will be furnished when available.
4. Includes previous project costs.
5. No commerce reported.
6. Abandonment recommended in H. Doc. 467, 69th Cong., 1st sess.
7. Includes $56 cost incurred in 1969.
8. Completed except that portion above mile 10.3 providing for widening from 40 feet to 60 feet, which is inactive.
9. By Public Law 88-404, that portion of Bayou Terrebonne between point where Barrow Street crosses said stream and a line determined by prolonging and extending eastern right-of-way line of New Orleans Boulevard southerly to south bank of said stream was declared nonnavigable.
10. Includes $66,000 contributed funds.
11. Operation and maintenance of the structure reported under project "Calcasieu River and Pass, LA."
12. Excludes $50,000 contributed funds.
13. Not completed; incorporated in navigation project "Mermentau River, LA."
14. Not completed; superseded for most of its length by present 12- by 125-foot Gulf Intracoastal Waterway, which coincides with or parallels it.
15. Maintenance project; no future work schedules.
16. Includes $57,555 ($29,974 of which was from Public Works funds) for new work on previous project. Includes $114,519 for maintenance of previous project.
17. Work is under continuing authority.

TABLE 11-F OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Aloha-Rigolette Area, Grant and Rapides Parishes, LA[1]	-	1956	$ 1,653,189	$ -	Apr. 1955
Amite River and Tributaries, LA	-	1964	3,034,255[2]	-	Feb. 1964
Bayou Bodcau, Red Chute, and Loggy Bayou, LA[1, 12]	-	1948	319,200	-	Jan. 1948
Bayou Choupique, LA[3]	-	1954	129,930	-	Mar. 1954
Bayou Nicholas, Coushatta, LA[3]	-	1964	70,717	-	Jun. 1964
Bayou Pierre in vicinity of Shreveport, LA[1, 2, 12]	-	1951	243,336[2]	-	Jun. 1939
Bayou Rapides, LA[3]	-	1952	95,179	-	Dec. 1951
Black Bayou Reservoir, LA[1, 4, 5, 12]	-	1945	-	-	-
Black Bayou-Pine Island Area, LA[3]	-	1963	336,063	-	May 1963
Campti-Clarence Area in Natchitoches Parish, LA	-	1978	1,655,700	-	Jul. 1978
Choctaw Bayou and Tributaries, LA[1, 7, 12]	-	1977	741,892	-	Apr. 1976
Colfax, Grant Parishes, LA[1, 7]	-	1938	70,348	-	-
Cooper Lake and Channels, TX[8]	-	1979	20,839,300	-	-
East Point, LA	-	1969	486,069	-	Aug. 1968
Ferrells Bridge Dam-Lake O' the Pines, TX[9]	-	1979	14,175,197	8,301,021	-
Garland City, AR.[12]	-	1976	1,335,842	-	Jul. 1974
Grant Parish below Colfax, LA[1, 9]	-	1941	38,809	-	[9]
Harvey Canal, Bayou Barataria Levee, LA	-	1979	1,018,005	-	-
Hempstead County Levee District No. 1, AR.[1, 9]	-	1941	88,006	-	[9]
Maniece Bayou, AR.[1, 2]	-	1970	970,932[2]	-	Aug. 1969
McKinney Bayou, Finn Bayou Segment, AR.[10]	Aug. 1977	1963[10]	-	-	-
Natchitoches Parish, LA[1, 2]	-	1956	1,529,478	-	Aug. 1955
Pineville, Red River, LA[1, 3, 12]	-	1953	232,426	-	Dec. 1951
Posten Bayou, AR.[11, 12]	-	1973	-	-	-
Red River Parish, LA[1, 9, 12]	-	1939	149,435	-	[9]
Red River in vicinity of Shreveport, LA[1, 12]	-	1953	3,908,000	-	Mar. 1953
Saline Point, LA[1, 9]	-	1945	124,111	-	-
Twelvemile Bayou, LA[3]	-	1966	335,433	-	May 1965

TABLE 11-F (Continued) OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Wright Patman Dam and Lake, TX[8]	-	1979	35,659,176	11,195,021	-

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1. Authorized under project "Red River Below Denison Dam."

2. In addition, the following was expended from contributed funds:

Amite River and tributaries	$ 430
Bayou Pierre in vicinity of Shreveport, LA	89,047
Choctaw Bayou and Tributaries, LA	170,799
Harvey Canal, Bayou Barataria Levee, LA	425,209
Maniece Bayou, AR.	39,293
Natchitoches Parish, LA	250,000

3. Authorized by Chief of Engineers. (Sec. 205, 1948 Flood Control Act, as amended.)

4. Construction not initiated.

5. Inactive.

6. Includes $92,000 for preauthorization studies.

7. Completed under provisions of Sec. 7, Flood Control Act 1928, as amended by Sec. 9, Flood Control Act 1936, and included in 1939 Annual Report of President, Mississippi River Commission, p. 2214.

8. These projects transferred to the Fort Worth District, Southwestern Division, during FY 1979.

9. Completed. Date will be furnished when available.

10. Date authorized.

11. Posten Bayou Project, authorized by Senate and House Resolutions, Dec. 17 and 15, 1970, deleted the plan authorized by the Flood Control Act dated Aug. 3, 1955.

12. These projects transferred to the Vicksburg District during FY 1983.

TABLE 11-G ACTIVE GENERAL INVESTIGATIONS (96x3121)

Item and CWIS Number	Federal Cost FY 83	Totals by Categories
SURVEYS (Category 100)		
Navigation (110)		
GIWW LA & TX Section -10032	$ 392,724	
	392,724	
Flood Control Studies (120)		
Aloha-Rigolette Area, LA -12123	228,671	
Amite River & Tributaries, LA -50100	26,492	
Louisiana Coastal Area, LA -61610	251,226	
Mermentau, Vermilion & Calcasieu Rivers & Bayou Teche, LA -34014	618,371	
West Bank of Miss. River in vicinity of New Orleans, LA -59360	0	
	1,124,760	
Comprehensive Basin Studies (150)		
Red River Authorization Report -81129	5,751	
Miscellaneous Activities (170)		
Special Investigations -17250	39,575	
Coordination Studies with Other Agencies (180)		
Planning Assistance to States (186) -51850	36,469	
Tech. & Engr. Assist. Shore & Streambank Erosion (188) -51731	92	
	36,561	
TOTAL (Category 100)		$1,599,371
Collection and Study of Basic Data (Category 200)		
Inspection and Inventory of Dams (236) -53843 and -53842	0	
Flood Plain Management Services (250)		
Flood Plain Management Services	149,431	
Hydrologic Studies (260)		
Hydrologic Studies -53820	0	
TOTAL (Category 200)		149,431
Research and Development (Category 300)	0	
		None
Continuation of Planning and Engineering (Category 400)		
Mississippi River-Ship Channel, Gulf to Baton Rouge, LA (55270)	1,543,879	
TOTAL (Category 400)		1,543,879
Advance Engineering and Design (Category 600)		
McKinney Bayou, AR and TX (75353)	220,360	
West Agurs Levee, LA (75345)	43,711	
TOTAL (Category 600)		264,071
GRAND TOTAL GENERAL INVESTIGATIONS		$3,556,752

VICKSBURG, MS, DISTRICT

This district comprises western Mississippi, southern Arkansas, northern Louisiana, and a very small portion of southwestern Tennessee, embraced in drainage basins of eastern tributaries of Mississippi River south of Horn Lake Creek to and including Buffalo River; Pearl River Basin in Mississippi; independent tributaries of the Gulf of Mexico south of the Buffalo River Basin to the Mississippi-Louisiana state line; western tributaries of Mississippi River between White and Atchafalaya Rivers including Arkansas River Basin below a point 3 miles upstream from Pine Bluff and Arkansas River below mile 36.1 near Pendleton, Arkansas; Ouachita and Black Rivers in Arkansas and Louisiana; and Red River in Louisiana and Arkansas to the Texas-Louisiana state line.

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Navigation

1. CLAIBORNE COUNTY PORT, MS.

Location. A slack-water harbor on the east bank of the Mississippi River at mile 405 above Head of Passes, and about 4 miles west of Port Gibson, MS.

Existing project. A dredged access channel 800 feet long and 150 feet wide with a 400- by 800-foot turning basin and an additional 50 feet of fleeting and berthing on the north and south bank.

Local cooperation. Fully complied with. Provided a diked disposal area for placement of dredged material for industrial development.

Operations and results during fiscal year. Leased dredged completed 95 percent of channel and harbor.

Condition as of Sep. 30. Due to high Mississippi River stages, 5 percent of the dredging remains to be completed.

2. LAKE PROVIDENCE HARBOR, LA

Location. In Hagaman Chute, a secondary channel of the Mississippi River at mile 483.4 above Head of Passes, and about 3 miles south of Lake Providence, LA.

Existing project. A dredged harbor channel about 0.7 mile long and 150 feet wide with a project depth of 9 feet in Hagaman Chute from the Mississippi River. Channel was widened to 400 feet in front of and upstream from port area, a distance of 800 feet, to provide a turning basin. Local interests constructed retaining dikes to provide the disposal area for material excavated from channel and turning basin. Resulting hydraulic fill provides a raised port area. Federal cost of completed work was $198,859, excluding preauthorization study costs of $9,678. Total non-Federal cost was $233,400, including cost of retaining dikes, and a cash contribution of $35,000. In addition, local interests have spent $1,022,000 for port facilities. Restudy of port for expansion, completed under continuing authority program. No further expansion is recommended.

Local cooperation. Fully complied with.

Terminal facilities. Local interests provided port facilities.

Operations and results during fiscal year. No maintenance dredging was performed during this fiscal year.

Condition as of Sep. 30. No major navigation problems exist at the present time.

3. MADISON PARISH PORT, LA

Location. A "fast-water" dredged channel located near the right descending bank of the Mississippi River at mile 457.2 above Head of Passes, and about 6 miles north of Tallulah, Louisiana.

Existing project. A dredged harbor channel about 0.5 mile long and 150 feet wide with a project depth of 9 feet. A turning basin within this channel was constructed by widening the harbor channel to 350 feet for a distance of 1,000 feet. Dredged material was used in construction of two hydraulic fills on property owned by the Madison Parish Port Commission for future development. Channel construction was completed in October 1980.

Local cooperation. Fully complied with.

Terminal facilities. Madison Parish Port Commission has constructed a multipurpose loading dock, rail facilities, and storage building on hydraulic fill. Two private interests are engaged in grain handling facilities on adjacent properties.

Operations and results during fiscal year. No maintenance dredging was performed during this fiscal year.

Condition as of Sep. 30. No major navigation problems exist at the present time.

4. OUACHITA AND BLACK RIVERS BELOW CAMDEN, AR

Location. Ouachita River rises in Polk County, AR, and flows southeasterly and southerly about 600 miles. Below its confluence with the Tensas and Little Rivers at Jonesville, LA, it is called Black River, which enters Red River 35.5 miles from the Mississippi River.

Previous projects. See page 683 of Annual Report for 1962 for details.

Existing project. See page 684 of Annual Report for 1962 for details of existing 6.5-foot navigation project. New work for completed project costs $4,574,551, exclusive of amounts expended under previous projects. Modified project and project for Red River below Fulton, AR, provide for a channel 9 feet deep and 100 feet wide in Red River between Old River and mouth of Black River, and in Black and Ouachita Rivers from mouth of Black River to Camden, AR. This is being accomplished by construction of four new locks, 84 feet by 600 feet; new dams; channel realinement; and measures to preserve Catahoula Lake for migratory waterfowl. Jonesville Lock and Dam replaced existing Lock and Dam No. 2; Columbia Lock and Dam replaced existing Lock and Dams Nos. 3, 4, and 5; Felsenthal Lock and Dam will replace existing Lock and Dam No. 6; and Calion Lock and Dam will replace existing Lock and Dam No. 8. The Felsenthal Canal was deauthorized as of Aug. 5, 1977, in accordance with Section 12 of the Water Resources Development Act of 1974. The River and Harbor Act of 1970 authorized establishment of wildlife refuges along Bayou D'Arbonne (14,700 acres) in connection with Columbia Lock and Dam and at Felsenthal Lock and Dam (65,000 acres). The Bayou D'Arbonne refuge was increased to 18,000 acres at the request of the Bureau of Sport Fisheries and Wildlife. Approved (1983) estimated cost for new work for 9-foot navigation project is **$262,852,000 including $253,000,000 Federal and $9,852,000 non-Federal for lands, damages, and relocations.**

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Local cooperation. Local cooperation for all completed work in Louisiana has been furnished in a timely manner. It is anticipated that local interests in Louisiana will be able to supply the necessary rights-of-way for construction of the cutoffs and bend widenings. Local interests in Arkansas have furnished the rights-of-way for the Felsenthal and Calion Locks and Dams and it is anticipated that the remaining rights-of-way will be furnished when needed. The city of Camden, AR, has furnished land for the Sandy Beach recreation area. All assurances from local interests in Arkansas including supplemental assurances (Public Law 91-646) have been accepted. The State of Louisiana has not furnished supplemental assurances; however, they are anticipated in the near future.

Terminal facilities. Public loading docks are at Columbia, LA, and Camden, AR. Privately owned docks and loading and unloading facilities are at Columbia, Monroe, and Sterlington, LA, and El Dorado, Calion, and Camden, AR. Two grain-handling facilities and a petroleum-loading facility are in the vicinity of Jonesville, LA, and a grain-handling facility is in the vicinity of Acme, LA.

Operations and results during fiscal year. Construction of Felsenthal Lock and Dam is complete. Construction of Calion Lock and Dam is scheduled for completion in early FY 84. Contracts were awarded for construction of both the Felsenthal and Calion Access Channels and Closure Dams in FY 82 with completion scheduled in late FY 84. A construction contract was also awarded for Crossett Harbor, AR, on Sep. 30, 1982, and construction is scheduled for completion in early FY 84. During FY 81 a channel alignment review was conducted in response to public opposition to the channel realignment features of the project. As a result of the alignment review, an amendment was included in 1982 Appropriations Act directing the Chief of Engineers to restudy the navigation options above Crossett, AR, with a view of reducing the realignment features. The restudy is complete and was submitted to the Appropriations Committees of Congress in July 1983. The leased dredge, *Lewis James*, removed 1,102,400 cubic yards of material from the Ouachita-Black waterway between October 1982 and September 1983.

Condition as of Sep. 30. The 6.5-foot project is complete and is being maintained. Planning and design for the 9-foot navigation project started in FY 1962 are continuing. Construction at Columbia Lock and Dam started in February 1964. The dam was completed in November 1968, and the lock was completed in January 1970 and was placed in service in May 1972. Construction at Jonesville Lock and Dam started in May 1967. The lock and dam were completed in January 1972 and were placed in service in March 1972. A 9-foot navigation channel to Lock and Dam No. 5 at Sterlington, LA, was established in June 1972. (See Table 12-C on locks and dams, Ouachita and Black Rivers, AR and LA.)

The contract for removal of four abandoned locks and dams which proved hazardous to navigation in the Columbia and Jonesville pools is completed. Construction of Felsenthal Lock and Dam is complete and construction of Calion Lock and Dam is nearing completion. There have been 17,421 acres acquired for the Bayou D'Arbonne Wildlife Refuge and 64,976 acres acquired for the Felsenthal Wildlife Refuge. Acquisition of the lands for both refuges is complete. Acquisition of mineral interest and relocations assistance in the Felsenthal Wildlife Refuge is continuing.

5. OVERTON-RED RIVER WATERWAY, LA

Location. In the State of Louisiana between junction of the Old and Mississippi Rivers and Shreveport, LA, along the Old and Red Rivers, through land cuts and natural channels on the south bank of Red River. (Refer to Geological Survey State maps and the MRC alluvial valley quadrangle maps.)

Existing project. Provides for a navigation route from the Mississippi River at its junction with Old River, through Old River to mile 31 of the Red River; developing a channel about 31 miles long, 200 feet wide, and 9 feet deep. Improvements consist of revetments, dikes, and dredging designed to preserve favorable and correct unfavorable channel alinement and depth. In addition to the existing project, the authorized work included a navigation route from mile 31 of the Red River to Shreveport, LA, via a lateral canal excavated along the south bank of the Red River. However, the portion of the authorized project above mile 31 was reclassified to inactive status as approved by Office of the Chief of Engineers, letter dated Oct. 18, 1971.

Local cooperation. Fully complied with. For details see page 11-18, Annual Report FY 1980.

Terminal facilities. None. Will be furnished if necessary.

Operations and results during fiscal year. The leased cutterhead dredges, *Butcher* and *Lewis James*, performed channel maintenance during FY 1983. A total of 566,000 cubic yards were removed from the channel.

Condition as of Sep. 30. Construction of the lower 31 miles was initiated Nov. 12, 1968, and is 100 percent complete with 68,923 linear feet of bank protected.

6. PEARL RIVER, MS AND LA

Location. Pearl River rises in east central Mississippi and flows southwest about 172 miles to Jackson, MS, thence southeast about 269 miles to the head of its delta, where it divides into West Pearl and East Pearl Rivers. West Pearl River flows about 34 miles to the Rigolets, a tidal pass connecting Lake Pontchartrain with Lake Borgne, an arm of the Gulf of Mexico.

Previous project. For details see page 750, Annual Report for 1938 and page 463, Annual Report for 1965.

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Existing project. The authorized project provides for a channel from the mouth of West Pearl River for 58 miles to the mouth of Bogalusa Creek at Bogalusa, LA, 7 feet deep at low water with a bottom width of 100 feet in the river sections and 80 feet in the canal section, with locks 65 by 310 feet clear inside dimensions. The plan of improvement may be divided into three sections as follows: the river section from the mouth of West Pearl River to mile 28.5 at Holmes Bayou with a channel 7 feet deep and 100 feet wide to be obtained by dredging, snagging, and construction of cutoffs and easement of critical bends at eight locations below Lock One along Pearl River in its reach from its mouth to mile 26, all at a depth of 7 feet; the canal section from mile 28.5 to 48.7 at Pools Bluff with a channel 7 feet deep and 80 feet wide to be obtained by construction of three locks in the canal with sills across Bogue Chitto at mile 44 and across the river at mile [illegible]7; the river section from mile 48.7 to 58 at the mouth of Bogalusa Creek to be obtained by dredging, snagging and easing of bends. At Bogalusa the mean variation of water surface is 10 feet and extreme, 23 feet. Plane of reference is mean low water.

Estimated cost of the project (1980) is $8,429,100 including $8,274,494 for improvements completed prior to 1966, and $154,800 cost for providing recreational facilities (Code 710). (See Table 12-D for features of locks included in existing projects.)

Local cooperation. Fully complied with.

Terminal facilities. The city of Bogalusa provides a barge terminal consisting of a wharf, transit shed, and access road at Richardson's Landing at the head of the project. A privately owned wharf at the Pearl River Highway Bridge near Pearl River Station, LA, is used for unloading logs. Only natural landings exist at various locations on the river. Facilities are considered adequate for existing commerce.

Operations and results during fiscal year. General Operation Locks—$44,900; Lock #1 Operation—$21,000; Lock #2 Operation and Maintenance—$61,800; Lock #3 Operation and Maintenance—$45,000; Reservoir Operation Non Fee Area—$14,900; Collection for Quarters—$6,300.06.

Condition at end of fiscal year. The existing project, prior to adoption of modifications authorized by the 1966 River and Harbor Act, was commenced in October 1938 and completed in January 1956. All locks were opened to navigation in November 1953. No work has been initiated on modifications (cutoffs and easements of bends below Lock 1) authorized by the 1966 Act. Total Federal costs under existing project as of Sep. 30, 1981, were $8,418,465 for new work and $4,702,099 for maintenance, a total of $13,120,564. Contributed funds for new work amount to $65,000.

The responsibility of this project was transferred to Vicksburg District, Lower Mississippi Valley Division, on Oct. 1, 1981. Routine maintenance was performed at each of the three lock sites during the year.

4 Point Plan, Vicinity of Jackson, MS. The plan of improvement consists of clearing approximately 3.3 miles of the floodway, cutoff of a channel bendway downstream of I-20, limited modification of the Ross Barnett Reservoir to allow operation for interim flood control purposes, and enlarging the opening at the Highway 25 bridge (completed by local interests). Also included in the authorized improvements in the vicinity of Jackson is the extension of the west bank levee at Fortification Street.

Project sponsors for the 4 Point Plan are as follows:

Clearing the floodway - Rankin-Hinds Pearl River Flood Control and Drainage District and the Pearl River Basin Development District.

Modification of the Ross Barnett Reservoir - Pearl River Water Supply District.

Highway 25 Bridge - Pearl River Basin Development District.

Fortification Street Levee Extension in Rankin - Hinds Pearl River Flood Control and Drainage District.

A report showing the general plan for flood control at Jackson is scheduled to be submitted to Assistant Secretary of the Army in December 1983.

A GDM covering the 4 Point Plan is scheduled to be completed in Jan. 84. Construction on all items of work is scheduled to be initiated in FY 84 and FY 85 with the levee extension to be completed in FY 84, the clearing and the reservoir modification to be completed in FY 85 and the cutoff to be completed in FY 86.

7. RED RIVER EMERGENCY BANK PROTECTION

Location. In northwest Louisiana, southwest Arkansas, and northeast Texas, along the Red and Old Rivers between the Mississippi River and the head of the levee system above Index, TX.

Existing project. Provides for realining the banks by means of cutoffs and training works and for stabilizing banks by means of revetments, dikes, and other methods as emergency conditions may require in advance of developing the design for the entire Red River Waterway project. Estimated cost for new work (October 1983) is $59,600,000 Federal and $220,000 Non-Federal, including a cash contribution of $25,000.

Local cooperation. Fully complied with. For details see pages 11-19 to 11-20, Annual Report FY 1980.

Operations and results during fiscal year. Work by hired labor consisted of preparing plans and specifications, surveys, and general engineering. Stabilization work was completed at Little River Phase I, mile 405.5-L.

Work was initiated and is continuing on three items: Boyd revetment, mile 383-L; Little River revetment Phase II, mile 405.5-L; and Clipper revetment, mile 406-R. A construction contract was awarded on Mo-Pac revetment, mile 403-R, on Sep. 29, 1983.

Condition as of Sep. 30. Construction was initiated in October 1972 and is 87 percent complete.

8. RED RIVER WATERWAY-MISSISSIPPI RIVER TO SHREVEPORT, LA

Location. From east central to northwest Louisiana along the Red and Old Rivers between the Mississippi River and Shreveport, LA.

Existing project. Provide a navigation route from the Mississippi River at the junction with Old River via Old and Red River to Shreveport, LA, developing a channel approximately 210 miles long, 9 feet deep, and 200 feet wide. The development will include five locks and dams, realinement and contraction of the river as necessary to develop an efficient channel, and bank stabilization as necessary to hold the newly developed channel in position. Facilities to provide opportunities for recreation and for fish and wildlife development are an integral part of the project. Estimated cost for new work (October 1983) is $1,484,000,000 Federal and $75,500,000 non-Federal, including $36,350,000 contributed funds. The Federal cost excludes $274,000 for aids to navigation by U.S. Coast Guard.

Local cooperation. For details see page 11-21, Annual Report FY 1980.

The Red River Waterway Commission, governing body of the Red River Waterway District, executed an act of assurance for all project features in Louisiana on Feb. 26, 1969, supported by resolution dated Jan. 30, 1969. The assurances were accepted for and on behalf of the United States on Apr. 15, 1969. The Commission furnished amended assurances covering the provisions of PL 91-646 on May 23, 1973, for the portion of the project within Louisiana which were accepted for and on behalf of the United States on Nov. 14, 1973.

Terminal facilities. Local interests are to provide adequate terminal facilities along the waterway and the first application for port construction was received this FY. The City of Alexandria, LA has applied for a permit for port construction at mile 109.

Operations and results during fiscal year. Hired labor continued work on Design Memoranda, preparation of Plans and Specifications, Surveys, General Engineering, and Model Studies. Phase III construction at Lock and Dam 1 reached 85 percent completion, and construction on the John H. Overton Lock and Dam was initiated and reached 19 percent completion. Additionally, seven channel realignment and stabilization contracts were awarded for work in Pools 1&2, and are in various stages of construction.

Condition as of Sep. 30. Construction was initiated in July 1973, and project is 26 percent complete.

9. ROSEDALE HARBOR, MS

Location. In Log Loader Chute, a secondary channel of the Mississippi River at mile 584.5 above Head of Passes, and about 2 miles south of Rosedale, MS.

Existing project. A dredged harbor channel about 2.4 miles long and 150 feet wide with a project depth of 9 feet. A turning basin consists of a dredged channel 1,000 feet long and 400 feet wide. Local interests constructed retaining dikes to provide the disposal area for material excavated from the channel and turning basin. Resulting hydraulic fill provides a 20-acre port area. Channel construction was completed in February 1978 at a cost of $2 million. Local interests are continuing construction on port terminal, dock facilities, and additional dredging.

Local cooperation. Fully complied with.

Terminal facilities. Local interests provided port facilities.

Operations and results during fiscal year. The dredge, *Ockerson*, and the contract dredge, *Lewis James*, removed 315,900 cubic yards of material during FY 83.

Condition as of Sep. 30. No major problems were experienced with navigation.

10. YAZOO RIVER, MS

Location. Formed by junction of Tallahatchie and Yalobusha Rivers in Leflore County, MS, flows about 169 miles southerly and southwesterly, and enters Mississippi River at Vicksburg, MS. (See Mississippi River alluvial valley quadrangle maps.)

Previous projects. See page 681 of Annual Report for 1961 for details.

Authorized project. The Yazoo River Navigation project consists of a 9-foot channel from its mouth to Greenwood, MS, mile 164.9 (present mileage), with a minimum width of 150 feet. The project includes a single lock (84 feet by 600 feet) and a dam located near Vicksburg, dredging and channel realinement; 600,000 acre-feet of additional storage in Sardis Lake to augment low flows in the Yazoo River, and recreation features. Total estimated (1983) Federal cost of 9-foot project is $215,000,000 which includes $407,000 for the U.S. Coast Guard. Total estimated non-Federal cost is $2,786,000. These figures do not include the total estimated (1983) Federal cost of Belzoni Bridge relocation which is $8,570,000 and the total estimated non-Federal cost which is $252,000.

Local cooperation. Requirements of local cooperation are fully described on page 12-3 of FY 80 Annual Report.

Terminal facilities. At Greenwood there is a privately owned dock and a grain-loading facility. There are privately owned facilities for loading grain at Belzoni and Satartia. At Yazoo City there is a privately owned grain-loading facility, a private log-loading facility, a private dock to handle dry and liquid fertilizer, and a public terminal.

Operations and results during fiscal year. The construction of Belzoni Bridge was about 99 percent complete at the end of the fiscal year.

Condition as of Sep. 30. Entire river is navigable. No work done on new authorization, except for construction work connected with the relocation of State Highway No. 12 Bridge at Belzoni, MS. Phase I studies are continuing on the 9-foot project.

11. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 87-645, as amended (preauthorization).

During FY 1983, detailed studies were completed on Bastrop Port, LA, at a cost of $69,637; continued on Yellow Bend Port, AR, at a cost of $125,920, and started on Union County Port, AR, at a cost of $104,254. A negative reconnaissance study was completed at Yazoo City, MS, at a cost of $6,510.

Flood Control

12. BAYOU BARTHOLOMEW AND TRIBUTARIES, AR AND LA

Location. Bayou Bartholomew rises in Jefferson County, AR, about 10 miles northwest of Pine Bluff and flows southerly about 370 miles to join the Ouachita River upstream from Sterlington, LA.

Authorized project. Project includes ten water-retention lakes in the western tributaries of Bayou Bartholomew in Arkansas and six local levee units along the main stem of Bayou Bartholomew in Louisiana. However, because of public opposition to construction of the loop levees, preconstruction planning of the six loop levees has been deferred until such time as there is sufficient support for such levees by local interests. Channel improvements previously authorized are deferred until it is determined that the quality and quantity of water downstream will not be adversely affected. Latest approved (1979) estimated cost of new work is $46,913,000 including $44,800,000 Federal and $2,113,000 non-Federal.

Local cooperation. Requirements of local cooperation are fully described on page 12-5 of Fiscal Year 80 Annual Report.

Operations and results during fiscal year. Preconstruction planning and design have been deferred pending favorable benefit-cost ratios.

Condition as of Sep. 30. Preparation of general design memorandum has been deferred due to lack of economic justification.

13. BAYOU BODCAU AND TRIBUTARIES, AR AND LA

Location. In left bank flood plain of Red River. Bayou Bodcau rises in vicinity of Hope, AR, and flows southerly through Bayou Bodcau Reservoir and Bodcau Lake to join Cypress Bayou and form Red Chute Bayou, continues through Red Chute Bayou, Flat Lake, and Loggy Bayou to Red River, about 40 miles below Shreveport, LA.

Existing project. Cypress Bayou-Red Chute Bayou levee: Extend existing levee from about 8 miles southeast of Benton, LA, proceeding southerly to junction of Cross and Red Chute Bayous, and then parallel to Red Chute Bayou on the right descending bank to its junction with Cutoff Bayou for a total distance of approximately 25 miles; construct landside drainage channel and several culverts with flap gates to Red Chute Bayou; construct cutoff on Red Chute Bayou just south of Louisiana Highway 527; construct approximately 5 miles of levee on left descending bank of Red Chute Bayou extending south from Louisiana Highway 612, and relocate utility lines as needed.

Flat River-Loggy Bayou levee: Extend from lower end of existing Red River levee in vicinity of Ninock, LA, along high (left descending) bank of Red River to a point on right descending bank of Loggy Bayou, about 1 mile above its mouth, thence generally along right descending bank of Loggy Bayou, Red Chute, Cutoff Bayou, and Flat River to Taylortown to tie into existing Red River levee; close Flat River near its junction with Cutoff Bayou and install one 36-inch round corrugated metal pipe with automatic flap gate to drain isolated pockets and provide uninterrupted drainage; construct drainage structures on Flat River near its junction with Red Chute Bayou and along alinement of the Loggy Bayou in the vicinity of Grassy Lake; and make necessary utility relocations.

Flat River channel improvement: Enlarge to average bottom width of 50 feet with flat side slopes and deepen by 2 to 6 feet from the confluence with Cutoff Bayou to junction with Cooper Bayou, 11.6 miles, including required relocations and modifications of utilities. Estimated cost for new work (October 1982) is $34,700,000 Federal and $7,600,000 non-Federal; however, this is subject to change pending outcome of the reevaluation study currently underway.

The subject project was one of the Water Resources projects reviewed in March 1977 in accordance with the President's request. As a result of this review, the President recommended to deauthorize this project. Congress subsequently directed the Corps to take the following two actions: Construct levees on Red Chute Bayou below Cutoff Bayou that are required to prevent induced flood damage that would otherwise result from the abandonment of partly completed project. Initiate studies to determine if modifications to the authorized project would permit its completion in a form consistent with the current executive policy.

Engineering and design work for the induced flood prevention plan below Cutoff Bayou and project modification studies were being conducted when President Reagan signed, on Dec. 4, 1981, the Energy and Water Development Appropriations Bill of 1982, which contained language that "reconfirmed without further study and analysis" the plan for flood control for the project as approved by the Flood Control Act of 1965.

Additional documents concerning environmental and socioeconomic impacts are currently being prepared and will be available to the public prior to further construction. There is clear evidence of a marked shift in land use within the project area over the past several years, from rural to urban-suburban. Because of this shift, we now find it necessary to expand our studies beyond those initially envisioned. The expanded studies will cover the areas of alternatives and economics, in addition to the natural environment. We are presently assessing the impacts of the expanded studies on the scheduled date for resuming construction on the project.

Local cooperation. For details see pages 11-24 and 25, Annual Report for FY 1980.

Operations and results during fiscal year. New work by hired labor forces consisted of preparation of plans and specifications, for design deficiency, and engineering studies.

Condition as of Sep. 30. Construction was initiated in October 1974 and is 17 percent complete.

14. BAYOU BODCAU RESERVOIR, LA

Location. In Red River Basin on Bayou Bodcau in Bossier Parish, LA, 72 miles above mouth of Loggy Bayou and 35 miles northeast of Shreveport, LA. (Refer to Geological Survey State map, scale 1:500,000.)

Existing project. An earth-fill dam rising 76 feet above streambed with a reservoir providing a flood damage prevention storage capacity of 357,000 acre-feet. Outlet works are in south abutment, and an uncontrolled spillway is on north abutment. Reservoir controls 656 square miles, or 53 percent, of entire drainage area of Bayou Bodcau. Construction of a floodway for diversion of Bayou Bodcau and Cypress Bayou to improve flood protection was authorized by 1936 Flood Damage Prevention Act. This authorization was modified by 1938 Flood Control Act, which authorized construction of a reservoir and other flood damage prevention works in lieu of construction of a floodway for diversion of Bayou Bodcau and Cypress Bayou, LA to improve protection, and further modified by War Department Civil Appropriation Act of 1939 which provided that reservoir and other flood control works on Bayou Bodcau and Cypress Bayou, LA, authorized by Flood Control Act of 1938 shall be constructed in accordance with revised plans and cost estimates in Office, Chief of Engineers. New work was completed in 1961.

Local cooperation. None required.

Operations and results during fiscal year. Hired labor forces continued operation and ordinary maintenance of the dam and reservoir, real estate activities, stream gaging, surveys and economic studies. Number of visitor-days of recreational use, 285,000 (Calendar Year 1980). (See Table 12-G for reservoir operations.)

Condition as of Sep. 30. Construction was initiated April 1947 and completed April 1961.

15. BAYOU PIERRE, LA

Location. In Red River Basin below Shreveport, LA, along channel of Bayou Pierre from its mouth at Grand Ecore, La., upstream 30 miles to its confluence with Bayou Wincy. (Refer to Geological Survey State map, scale 1:500,000.)

Existing project. Provides for widening channel at intervals, totaling 12.9 miles, and snagging of 29.7 miles, to reduce flood damage and improve sanitary and living conditions over a wide area. Cost of new work, completed in 1939, was $299,529.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Hired labor forces continued condition and operations studies as required.

Condition as of Sep. 30. Construction was initiated in FY 1938 and completed in FY 1939.

16. BLAKELY MOUNTAIN DAM-LAKE OUACHITA, OUACHITA RIVER, AR

Location. This project is on Ouachita River, AR, at head of Lake Hamilton (pool of Carpenter Dam), 486 miles above mouth of Black River, and approximately 10 miles northwest of Hot Springs, AR.

Previous project. See page 693 of Annual Report for 1962 for details.

Existing project. A lake of 2,768,500 acre-feet storage capacity for flood control and other purposes with an installed power capacity of 75,000 kilowatts. Remaining work consists of completion of public-use facilities. Latest approved (1983) estimated project cost is $44,100,000.

Local cooperation. None required.

Operations and results during fiscal year. Power production totaled 270,517,000 kilowatt-hours of which 268,731,000 kilowatt-hours were delivered to Arkansas Power and Light Co., under contract between that company and Southwestern Power Administration. The maximum pool elevation of 590.10 feet above NGVD, or 12.1 feet above the maximum power pool, occurred on Dec. 5, 1982. Storage in the flood control pool at this time amounted to 526,700 acre-feet. Peak 24-hour inflow of 210,102 cubic feet per second occurred on Dec. 3, 1982. On Sep. 30, 1983, the pool elevation was 573.79 feet above NGVD and storage in the power pool was 1,286,200 acre-feet.

Condition as of Sep. 30. Project was started in August 1947 and was completed for beneficial use in October 1955, except for public-use facilities. Power generation, operation, and maintenance activities are continuing. Remote control equipment has been installed and is operating the power plants at DeGray Lake and Narrows Dam-Lake Greeson.

17. CADDO LAKE, LA

Location. In Caddo Parish, about 19 miles northwest of Shreveport, LA, at the foot of Caddo Lake and at head of Twelve Mile Bayou.

Existing project. Replacement of the original dam was completed in Jun. 1971, having same flow characteristics and located as near as practicable downstream of the old dam, built under navigation project "Cypress Bayou and Waterway between Jefferson, TX, and Shreveport, LA." New dam will be capable of being raised in the future if desirable and justified. Estimated cost of new work (October 1976) was $3,587,800 Federal and $28,000 non-Federal.

Local cooperation. Fully complied with. Public Law 94-587, Section 174, amended the Flood Control Act of 1965 (PL 89-298) to provide that operation and maintenance of Caddo Lake Dam be the responsibility of the Secretary of the Army, acting through the Chief of Engineers. Conveyance of title to the United States from the Caddo Levee District is being reviewed.

Operations and results during fiscal year. Maintenance by hired labor consisted of condition and operation studies, stream gaging, and water quality studies. Maximum pool elevation was 183.2 feet NGVD on Jan. 5, 1983, when storage in the flood control pool was 115,640 acre-feet. On Sep. 30, 1983, the pool elevation was 158.6 feet NGVD and storage in flood control pool was 431 acre feet.

18. DEGRAY LAKE, CADDO RIVER, AR

Location. On Caddo River (mile 8), a tributary of Ouachita River, in a narrow, rocky gorge in Clark and Hot Springs Counties, approximately 7 miles north of Arkadelphia, AR.

Existing project. Provides for a lake of 881,900 acre-feet storage capacity for flood control, water supply, pollution abatement, and power with an installed power capacity of 68,000 kilowatts (one conventional 40,000-kilowatt generating unit and one 28,000-kilowatt generating unit with reversible pump-type turbine). Latest approved (1980) estimated first cost is $72,034,000, including $5,800,000 for water supply, to be reimbursed by local interests, exclusive of interest.

Local cooperation. None required for flood control and power features. Fully complied with for water supply feature.

Operations and results during fiscal year. Power production totaled 122,415,000 kilowatt-hours, of which 121,192,000 kilowatt-hours were delivered to Arkansas Power and Light Co., under contract between that company and Southwestern Power Administration. The maximum pool elevation of 420.54 feet above NGVD, or 12.54 feet above the maximum power pool, occurred on Dec. 4, 1982. Storage in the flood control pool at this time amounted to 186,300 acre-feet. Peak 24-hour inflow of 89,270 cubic feet per second occurred on Dec. 3, 1982. On Sep. 30, 1983, the pool elevation was 402.43 feet above NGVD and storage in the power pool was 321,800 acre-feet.

Condition as of Sep. 30. Construction started in June 1962 and was essentially complete in December 1971. All major construction is complete including the remote control for the power plant from Blakely Mt. Dam-Lake Ouachita.

Power generation, operation, and maintenance are continuing.

19. LEAD BAYOU, MS

Location. Lead Bayou is a tributary of the Sunflower River in Bolivar and Sunflower Counties, MS, approximately 30 miles from the Mississippi River near Cleveland, MS.

Existing project. The plan of improvement calls for enlarging the existing Lead Bayou channel to provide a 1.5-year degree of protection to agricultural areas and a 10-year degree of protection to the small developed area near Cleveland, MS. Total estimated Federal cost is $1,526,000.

Local cooperation. Fully complied with.

Condition as of Sep. 30. A construction contract was awarded Mar. 10, 1982, and as of Sep. 30, 1983, the project was 98 percent complete. Construction is scheduled for completion in October 1983.

20. MONROE FLOODWALL, LA

Location. Monroe, LA, lies within the alluvial valley of the Mississippi River and on the east bank of the Ouachita River. The city is located in the north-central part of Louisiana, in Ouachita Parish.

Existing project. Provides for construction of floodwall to close the 1,750-foot opening extending from Bry Avenue to Grammont Street. Floodwall will provide complete flood protection to the city of Monroe. Total Federal cost of new work was $2,561,000. Non-Federal cost was $206,000.

Local cooperation. Requirements of local cooperation are fully described on page 12-6 of Fiscal Year 80 Annual Report.

Condition as of Sep. 30. Work on the floodwall is complete.

21. NARROWS DAM-LAKE GREESON, LITTLE MISSOURI RIVER, AR

Location. Narrows Dam is on the Little Missouri River, AR, 105 miles above the mouth and 5 miles northwest of Murfreesboro, AR.

Existing project. Provides a lake of 407,900 acre-feet storage capacity for flood control and other purposes with power installation of 25,500 kilowatts in three units of 8,500 kilowatts each. Remaining work consists of

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completion of public-use facilities. Latest approved (1983) estimated cost is $20,900,000, excluding $1,738,700 for third generating unit and remote control equipment.

Local cooperation. None required.

Operations and results during fiscal year. Power production totaled 60,192,500 kilowatt-hours, of which 59,533,830 kilowatt-hours were delivered to Texas-Louisiana Electric Cooperative, Inc., under contract between that company and Southwestern Power Administration. The maximum pool elevation of 561.62 feet above NGVD, or 13.62 feet above the maximum power pool, occurred on Dec. 6, 1982. Storage in the flood control pool at this time amounted to 114,800 acre-feet. Peak 24-hour inflow of 50,620 cubic feet per second occurred on Dec. 3, 1982. On Sep. 30, 1983, the pool elevation was 534.25 feet above NGVD and storage in the power pool was 115,600 feet.

Condition as of Sep. 30. Project was started in May 1947 and was completed for beneficial use in May 1950. The third power generating unit was completed in January 1970. Installation of remote control equipment was completed in June 1972. Power generation, operation, and maintenance are continuing. Remote control equipment has been installed for operation of the power plant from Blakely Mt. Dam-Lake Ouachita.

22. OUACHITA RIVER LEVEES, LA

Location. East bank of Ouachita River between Bastrop, LA, and Sandy Bayou. Loop levees on the west bank at West Monroe, Columbia, and Bawcomville.

Existing project. There are 105.9 miles of levee on the east bank and 11.6 miles of levee in the three loops on the west bank. A letter report, approved by the Chief of Engineers, authorized gravel surfacing 37.8 miles of levee, enlargement of 40.4 miles of levee, and a 5.7-mile southward extension of the east bank levee. Approved (1979) estimated Federal cost is $9,400,000. Estimated non-Federal cost is $25,000.

Local cooperation. Requirements and assurances of local cooperation are fully described on page 12-6 of FY 80 Annual Report.

Condition as of Sep. 30. Completion of the authorized work would not correct all project deficiencies. Enlargement of the Bawcomville levee, enlargement of the east bank levee above Monroe, and replacement of numerous drainage structures are not authorized. Therefore the construction of the present Ouachita River levee project has been deferred. A complete study of the Ouachita River levee system is being accomplished as an interim study of the ongoing comprehensive Ouachita River Basin study. Item I of the Monroe to Sandy Bayou Levee enlargement project was completed Jul. 7, 1978; additional work is being deferred.

23. OUACHITA RIVER AND TRIBUTARIES, AR AND LA

Location. Improvements comprising comprehensive projects are on main stem Ouachita River, AR and LA, on its tributaries, Caddo and Little Missouri Rivers, and in Pine Bluff, AR. Description of Ouachita River Basin is presented in greater detail on page 690 of Annual Report for 1962.

Existing project. The authorized general plan for flood control and other purposes in the Ouachita River Basin includes the projects listed in Table 12-F. The 1966 Flood Control Act modified the Bayou Bartholomew and Tributaries, AR and LA, project to include ten water-retention lakes in the western tributaries of Bayou Bartholomew in Arkansas and six local levee units along the main stem of the bayou in Louisiana.

Local cooperation. Fully complied with for completed features of comprehensive project. (See individual statements for further details.)

Operations and results during fiscal year. Operations for Blakely Mt. Dam-Lake Ouachita, DeGray Lake, Narrows Dam-Lake Greeson, Bayou Bartholomew and Tributaries, Monroe Floodwall, and Ouachita River Levees are shown in individual reports herein.

Condition as of Sep. 30. Pertinent data on those features which are complete or not started are in Table 12-F. Conditions of Blakely Mt. Dam-Lake Ouachita, DeGray Lake, and Narrows Dam-Lake Greeson are given in the individual reports.

An overall basin study including interim studies of the Monroe-West Monroe area, the Ouachita River Levees, the Arkansas Lakes, and extension of navigation to Arkadelphia is ongoing.

24. PORTER BAYOU, MS

Location. Porter Bayou is located in Bolivar and Sunflower Counties, MS. It lies approximately 25 miles east of the Mississippi River, is approximately 5 miles south of Cleveland, MS, and travels through the town of Shaw, MS.

Existing project. The plan of improvement calls for selective snagging and clearing of Porter Bayou from mile 12.5 to mile 32.3. This plan provides a 0.5-year frequency protection for the Porter Bayou area. All construction is being performed from one side of the stream, leaving the other side undisturbed. The total estimated Federal cost of the project is $1,214,000.

Local cooperation. Fully complied with.

Condition as of Sep. 30. A construction contract was awarded Sep. 22, 1982. As of Sep. 30, the contract was 45 percent complete. Construction is scheduled for completion in May 1984.

25. RED RIVER BELOW DENISON DAM (VICKSBURG DISTRICT)

Location. On Red River and its tributaries below Denison Dam, in Oklahoma, Arkansas, Texas, and Louisiana. (Refer to Geological Survey State maps and folio "Maps of Red River"-1958 edition.)

Existing project. Flood Control Act of 1946 approved general plan for flood control on Red River below Denison Dam, TX and OK, which provides for construction of six flood control reservoirs in combination with existing or authorized Federal and non-Federal levee improvements, modified as required, and channel stabilization at locations where levee setbacks are impossible or uneconomical. This act further authorized incorporation of several separate existing projects for flood damage prevention along Red River below Denison, above jurisdiction of the MRC, into this project. By Public Law 780, 83d Cong., 2d sess., as amended by Public Law 218, 84th Cong. 1st sess., and Public Law 645, 86th Cong., 1st sess., plan of improvement was amended to include additional projects as indicated in following lists of reservoirs and local protection works considered in general flood control plan for the Red River below Denison Dam, and existing flood control projects incorporated into project in Vicksburg District. (See Table 12-H for new projects and Table 12-I for incorporated projects.)

Local cooperation. See individual reports herein.

26. RED RIVER BELOW DENISON DAM, LEVEES AND BANK STABILIZATION (VICKSBURG DISTRICT)

Location. Along the main stem of the Red River from the head of the levee system immediately above Index, AR, through the southwest corner of Arkansas to the vicinity of Boyce, LA, on the right bank, and Pineville, LA, on the left bank.

Existing project. Raising and strengthening existing and authorized Red River levees to provide protection against flooding and bank protection works at locations where levee setbacks are impossible or uneconomical. The plan consists of raising and strengthening existing and authorized Red River levees to provide against a flood approximately 20 percent greater than the flood of 1945, the flood of record, as modified by authorized reservoirs. Bank protection works are to be constructed at locations where levee setbacks are impossible or uneconomical. Estimated cost for new work (October 1983) is $59,000,000 Federal and $1,560,000 non-Federal.

Local cooperation. Local interests must furnish lands, easements, rights-of-way, and spoil disposal areas necessary for construction; hold and save the United States free from damages; and maintain and operate works after completion. Local interests have been prompt in furnishing levee rights-of-way upon request, except for the following three items of low priority: McKinney Bayou Drainage District, enlargement of approximately 4 miles of intermittently low levee; Garland Levee District, enlargement of approximately 1.3 miles of levee; and Red River Levee District No. 1, enlargement of approximately 4.3 miles of levee. The local agencies are convinced that the flow line lowering produced by completed reservoirs has made this work unnecessary.

Assuring Agencies: Red River Levee and Drainage District, North Bossier Levee District, Red River Water Commission, Bossier Levee District, Caddo Levee District, Cane River Levee and Drainage District, Garland Levee District, Hempstead County Levee District No. 1, Miller County Levee District No. 2, Red River Levee District No. 1, Nineteenth Louisiana Levee District, and Long Prairie Levee District. All basic assurances received. Supplemental assurances covering Public Law 91-646 have been received from all agencies except the North Bossier Levee District.

Operations and results during fiscal year. Hired labor forces continued investigations, surveys, and preparation of plans and specifications.

Bank stabilization was completed at First Old River Lake, AR, mile 393-R on Apr. 29, 1983, and Tobe, AR, mile 408-R on May 3, 1983. One construction contract at Lucas Bend, LA, mile 266-R, was awarded Sep. 29, 1983, but construction was not initiated.

Condition as of Sep. 30. Construction was initiated in February 1948 and the levees are complete and bank stabilization is 85 percent complete.

27. RED RIVER WATERWAY-SHREVEPORT, LA, TO INDEX, AR

Location. In northwest Louisiana, southwest Arkansas, and northeast Texas, along the Red River between Shreveport, LA, and Index, AR.

Existing project. To provide for realining the channels of Red River from Shreveport, LA, to the levee system near Index, AR, by means of dredging, cutoffs, and training works and for stabilizing its banks by means of revetments, dikes, and other methods. Facilities to provide opportunities for recreation and for fish and wildlife development are an integral part of the project. Estimated cost for new work (October 1982) is $186,000,000 Federal and $24,000,000 non-Federal, including $2,780,000 contributed funds.

Local cooperation. Provide prior to construction and without cost to the United States all lands, easements, and rights-of-way necessary for construction and subsequent maintenance of the project, including suitable areas determined by the Chief of Engineers to be required in the general public interest for disposal of spoil, and provide necessary retaining dikes, bulkheads, and embankments, therefor, or the cost of such retaining works and also including all additional lands, or rights in land, required to insure public control of the recreational development; and hold and save the United States free from damages due to the construction

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and subsequent maintenance of the project, maintain all the project works upstream of the navigation improvement at Shreveport, LA, after completion in accordance with regulations prescribed by the Secretary of the Army.

Provide without cost to the United States all relocations of utilities, bridges (except railroads), sewers, pipelines, and any other alterations of existing improvements which may be required for construction of the project; where the appraised value of the land provided for recreation development amounts to less than 50 percent of the total first cost of recreational development, make additional contributions sufficient to bring the non-Federal share to at least that level; which additional contribution may consist of the actual cost of carrying out an agreed-upon portion of the development, or a cash contribution, or a combination of both; operate and maintain for the life of the Federal project the recreational areas and all facilities installed pursuant to the agreement, except that facilities which are integral parts of a structure operated and maintained by the Federal Government shall be operated and maintained under whatever cost-sharing arrangement applies to the operation and maintenance of the basic structure; and assure access to recreational developments to all on equal terms.

Local interests are required to comply with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) and with the provisions of Sec. 221 of the Flood "Control" Act of 1970 (Public Law 91-611), in acquiring real property.

Section 187 of the Water Resources Development Act of 1976 (Public Law 94-587) modifies the requirement of local cooperation to provide that non-Federal interests shall contribute 25 percent of the construction costs of retaining dikes, bulkheads, and embankments required for initial and subsequent disposal of dredged material.

Assuring Agencies: Louisiana: Formal assurances for the project in Louisiana were executed by the Red River Waterway Commission on Feb. 26, 1969, and accepted on behalf of the United States on Apr. 15, 1969. Amended assurances covering the provisions of Public Law 91-646 and Public Law 91-611 were executed by the commission on May 23, 1973, and accepted on behalf of the United States on Nov. 14, 1973. The Red River Waterway Commission was formed expressly to provide the local cooperation for the project and has an adequate tax base to fulfill its objectives.

Arkansas: On Oct. 16, 1969, the Arkansas Soil and Water Conservation Commission furnished a statement of willingness to provide local cooperation on the proposed plan. In July 1976, the Soil and Water Resources Division of the Arkansas Department of Commerce stated that they would approach the Arkansas Legislature to obtain funds on a recurring yearly basis sufficient to insure its portion of the project funds by start of construction in Arkansas. By letter dated Jun. 20, 1977, the Director of the Soil and Water Resources Division advised that the Arkansas General Assembly appropriated $750,000 in the 1977 session to be held as a trust fund for payment of local cost sharing on this project. Further, they anticipated that additional funding will be added in future years to enable them to have on hand the required funds at the time construction begins.

Texas: On Dec. 17, 1969, the Governor of Texas furnished a statement of willingness to provide local cooperation for bank stabilization. A meeting was held in Austin, TX, on Mar. 1, 1977, concerning sponsors of the Texas portion of the project. The purpose of the meeting was to discuss the status of the waterway project and the type of organization needed to accomplish project assurances, the powers required by such an organization may be established. The Texas Water Development Board (TWDB) stated that they would take the lead in obtaining an organization with the ability to provide the local cooperation requirements. In the third quarter of 1980 the State of Texas moved closer to achieving that goal by action taken by the three Texas counties of Bowie, Lamar, and Red River, who have petitioned the State to enact legislation permitting them to join the Red River Authority of Texas. By this action, the Red River Authority of Texas will become legally empowered to act as sponsor for the Waterway.

Terminal facilities. Adequate facilities are to be provided and maintained by local interests.

Operations and results during fiscal year. Advanced engineering and design work was accomplished by hired labor forces. Preparation of Phase 1 of the GDM is approximately 52 percent complete.

Condition as of Sep. 30. Construction has not been initiated.

28. WALLACE LAKE, LA

Location. In Red River Basin on Cypress Bayou, Caddo and De Soto Parishes, LA, 66 miles above mouth of Bayou Pierre and about 14 miles southeast of Shreveport, LA. (Refer to Geological Survey map, scale 1:500,000.)

Existing project. An earth-fill dam 4,940 feet long at top, including 644 feet of spillway and outlet works, rising 48 feet above streambed, with a reservoir providing storage of 96,100 acre-feet, including a conservation pool of 7,800 acre-feet. Outlet works and uncontrolled spillway are centered about 1,250 feet north of south abutment. Reservoir controls 260 square miles, or about 20 percent of total drainage area of Bayou Pierre, Cypress Bayou, and tributaries combined, and affords protection against floods for an area of about 90,000 acres of valley below dam. Cost for new work completed in 1946 was $1,219,371, including $17,164 for Code 711.

Local cooperation. Fully complied with. For details see page 1024, Annual Report Fiscal Year 1946.

Operations and results during fiscal year. Hired labor work consisted of condition and operation studies, stream gaging, and operation and maintenance of the dam as required. Maximum pool elevation in the lake was 151.3 feet NGVD on Feb. 11, 1983, when storage in the flood control pool was 45,900 acre feet. On Sep. 30, 1983, the pool elevation was 142.1 feet NGVD and storage in the flood control pool was 0 acre feet. (See Table 12-G for reservoir operations.)

Condition as of Sep. 30. All construction work on project was completed in December 1946.

Main portion of dam was constructed during Fiscal Year 1943; stabilization of railroad embankment was accomplished from June to November 1946; and placing of fill in closure section of dam was accomplished from November to December 1946. Recreational facilities at the lake were closed in May 1972.

29. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspection of completed work was accomplished at a cost of $112,632 for the fiscal year. Total cost as of Sep. 30, 1983 is $1,135,780.

30. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Emergency flood control activities—repair, flood fighting, and rescue work. (Public Law 99, 84th Cong., and antecedent legislation.)

Disaster preparedness, FY costs for the period were $148,171.

Emergency operations, total expenditures during FY 83 were $2,213,137 which involved flooding in Ouachita, Yazoo and Red River Basins in December 1982 - March 1983; Pearl River Basin, April 1983; and Mississippi River Basin, May-June 1983.

Rehabilitation, total expenditures during FY 83: Red River, mile 123.0L, Upper Urania, $35,790; Red River, mile 232.0R, Robinson Place, $28,660; Ascalmore Creek, $27,900.

Advance measures, total expenditures in FY 83: Red River, mile 211.0R, $9,786; Ouachita River, Rilla, LA, $10,000; Ouachita River Columbia, LA, $9,197; Palusha/Jennings Bayou, Greenwood, MS, $139,100; Red River Below Denison Dam Levee Setback, $493.

Total Public Law 99 costs through Sep. 30, 1983, were $2,622,234.

Snagging and clearing of navigable streams and tributaries in the interest of flood control (Sec. 208 of 1954 Flood Control Act, Public Law 780,83d Cong.).

No activity during the period.

Emergency bank protection (Sec. 14 of 1956 Flood Control Act, Public Law 780.83d Cong.).

No activity during the period.

Flood control activities pursuant to Sec. 205, Public Law 858, 80th Cong., as amended (preauthorization).

During FY 1983, reconnaissance studies were completed on West Sterlington, LA, at a cost of $3,900; Chatman Creek and Industrial Area, Malvern, AR, at a cost of $7,500; and Town Creek, Malvern, AR, at a cost of $7,500.

Detailed studies on Little Mound Bayou, Bolivar County, MS, at a cost of $86,986; Canal 43, Desha and Lincoln Counties, AR, at a cost of $72,598 and Pearl-Flowood Area, MS (Expanded Recon), at a cost of $59,223.

Detailed studies were terminated on: (1) Dowling Bayou, Humphreys and Sharkey Counties, MS, in Feb. 83. Expenditures for FY 83 were $241. (2) New Albany, MS, in Aug. 83. Expenditures for FY 83 were $42,132.

Construction continued on Lead Bayou, MS, FY 83 expenditure of $685,325; and Porter Bayou, MS, FY 83 expenditure of $506,187.

TABLE 12-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
1.	Claiborne County Port, MS	New Work					
		Approp.	$ 100,000	$ 30,000	480,000	$1,305,000	$ 2,000,000
		Cost	122,558	39,730	33,297	1,717,787	1,965,130
		Maint.					
		Approp.	-	-	-	-	-
		Cost	-	-	-	-	-
2.	Lake Providence Harbor, LA	New Work					
		Approp.	-	-	-	-	208,537[1]
		Cost	-	-	-	-	208,537[1]
		Maint.					
		Approp.	163,600	268,800	160,000	-111,000	1,620,500
		Cost	65,190	154,377	252,518	-10,579	1,600,591
3.	Madison Parish Port, LA	New Work					
		Approp.	520,000	-24,000	-	-	656,000
		Cost	478,276	36,372	-	-	655,999
		Maint.					
		Approp.	250,000	250,000	-29,000	-129,000	342,000
		Cost	17,900	208,977	66,247	44,500	337,624
4.	Ouachita and Black Rivers below Camden, AR (6.5-foot navigation project)	New Work					
		Approp.	-	-	-	-	5,248,619[2]
		Cost	-	-	-	-	5,248,619[2]
	Ouachita and Black Rivers below Camden, AR (9-foot navigation project)	New Work					
		Approp.	19,900,000	19,200,000	18,211,000	20,406,000	193,824,000
		Cost	17,157,320	21,665,779	13,939,425	13,638,600	181,914,847
		Maint.					
		Approp.	3,494,400	3,362,700	2,849,000	4,232,756	56,315,163
		Cost	3,110,838	3,217,854	3,211,608	4,035,654	55.751,380
5.	Overton-Red River Waterway, LA	New Work					
		Approp.	-	-	-	0	0
		Cost	-	-	-350,500	0	-350,500[5]
6.	Pearl River MS	Maint.					
		Approp.	-	-	161,000	587,000	748,000[3]
		Cost	-	-	182,196	209,676	341,872
7.	Red River Emergency Bank Protection	New Work					
		Approp.	-	-	-	3,362,000	3,362,000[6]
		Cost	-	-	-	2,942,895	2,942,895
	(Contrib. Funds)	New Work					
		Contrib.	325	-	-	-	6,825
		Cost	325	-	-	-	6,825
8.	Red River Waterway-Mississippi River to Shreveport, LA	New Work					
		Approp.	-	-	-	60,736,000	60,736,000[7]
		Cost	-	-	-	58,456,160	58,456,160[7]
		Maint.					
		Approp.	-	-	-	545,000	545,000[7]
		Cost	-	-	-	510,042	510,042[7]
	(Contrib. Funds)	New Work					
		Contrib.	216,720	-	-	164,273	647,734[7]
		Cost	217,943	-	-	103,139	586,600[7]
9.	Rosedale Harbor, MS	New Work					
		Approp.	-	-	-	-	2,000,000
		Cost	-	-	-	-	2,000,000
		Maint.					
		Approp.	90,200	296,900	97,000	78,000	962,100
		Cost	-	164,589	101,815	212,185	878,362

TABLE 12-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
10.	Yazoo River, MS	New Work					
		Approp.	164,000	2,760,000	3,900,000	916,000	9,589,661[4]
		Cost	317,050	3,073,265	4,000,402	465,295	9,121,373[4]
		Maint.					
		Approp.	54,500	34,000	50,000	48,000	1,194,315
		Cost	52,996	32,967	26.624	7,700	1,128,102
12.	Bayou Bartholomew and Tributaries AK and LA	New Work					
		Approp.	-	-	-	-	974,000
		Cost	-	-	-	-	974,000
13.	Bayou Bodcau and tributaries, AR & LA	New Work					
		Approp.	-	-	-	489,000	489,000[7]
		Cost	-	-	-	982	982[7]
14.	Bayou Bodcau Reservoir, LA	New Work					
		Approp.	-	-	-	-	0
		Cost	-	-	-	-	0
		Maint.					
		Approp.	-	-	231,000	652,300	883,300[7]
		Cost	-	-	11,815	404,300	416,115[7]
15.	Bayou Pierre, LA	New Work					
		Approp.	-	-	-	-	0
		Cost	-	-	-	-	0
		Maint.					
		Approp.	-	-	19,400	30,000	49,400[7]
		Cost	-	-	13,434	14,257	27,691[7]
16.	Blakely Mt. Dam-Lake Ouachita, Ouachita River, AK	New Work					
		Approp.	-	145,000	870,000	-	34,044,944
		Cost	186,919	49,017	890,722	105,484	34,023,715
		Maint.					
		Approp.	3,983,000	2,828,000	2,958,000	3,309,000	33,990,092
		Cost	3,231,158	3,806,951	3,188,349	3,290,852	33,852,673
	Code 713 Funds	New Work					
		Approp.	-	1,725	470	-	474,095
		Cost	7,920	25,256	1,798	-	474,046
17.	Caddo Lake, LA	New Work					
		Approp.	-	-	-	-	0
		Cost	-	-	-	-	0
		Maint.					
		Approp.	-	-	321,800	132,200	454,000[7]
		Cost	-	-	-	231,437	231,437[7]
18.	DeGray Lake Caddo River, AK	New Work					
		Approp.	835,000	-	-	-	72,033,992
		Cost	1,164,447	87,524	56,955	12,611	72,033,992
		Maint.					
		Approp.	2,506,400	2,210,000	2,254,000	2,608,000	20,030,683
		Cost	2,470,062	2,316,783	2,351,889	2,457,043	19,823,504
19.	Lead Bayou, MS	New Work					
		Approp.	75,000	-	1,000,000	358,000	1,594,685
		Cost	21,076	56,083	436,009	685,325	1,353,613
20.	Monroe Floodwall, LA	New Work					
		Approp.	-	-	-	-	2,560,500
		Cost	10,272	-	-	-	2,560,500
21.	Narrows Dam-Lake Greeson, Little Missouri River, AK	New Work					
		Approp.	-	145,000	625,000	-	16,533,229
		Cost	76,029	32,741	579,042	147,786	16,516,486
		Maint.					
		Approp.	1,941,300	2,128,000	1,660,000	2,433,700	24,657,437
		Cost	1,813,572	2,145,519	1,986,615	2,284,608	24,457,446

TABLE 12-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
	Code 713 Funds	New Work					
		Approp.	-	1,725	-470	-	331,505
		Cost	77,783	-	-	-	308,088
22.	Ouachita River Levees, LA	New Work					
		Approp.	-	-	54,000	-6,000	2,682,000
		Cost	999	-	-	48,000	2,682,000
24.	Porter Bayou, MS	New Work					
		Approp.	30,000	-	355,000	500,000	1,050,278
		Cost	20,479	19,803	52,273	506,187	753,503
26.	Red River below Denison Dam, Levees and Bank Stabilization	New Work					
		Approp.	-	-	5,110,700	550,000	5,660,700[7]
		Cost	-	-	-	1,505,639	1,505,639[7]
27.	Red River Waterway, Shreveport, LA, to Index, AR	New Work					
		Approp.	-	-	-	-	0[7]
		Cost	-	-	-	4,335	4,335[7]
28.	Wallace Lake, LA	New Work					
		Approp.	-	-	-	-	0[7]
		Cost	-	-	-	-	0[7]
		Maint.					
		Approp.	-	-	22,200	142,300	164,500[7]
		Cost	-	-	-	44,113	44,113[7]

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1. Actual costs include $198,859 Public Works Acceleration Act funds and $9,678 expended for planning and design; excludes $35,000 contributed funds, $198,400 cost of retaining dikes, and $1,022,000 local interests' costs for port facilities.
2. Includes $674,068 for new work on previous projects.
3. Excludes $21,884 carryover from Mobile District.
4. Includes $359,661 for previous projects. Present appropriations include funds for Advance Participation on Belzoni Bridge.
5. $350,500 cost credit from Memphis on New Orleans District expenditures.
6. Includes $3,312,000 PL 98-8 Jobs Bill. Excludes $47,828,000 previously allocated to New Orleans District.
7. Excludes New Orleans District allocation and cost.

TABLE 12-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	CLAIBORNE COUNTY PORT, MS (See Section 1 of Text)	
Jul. 14, 1960, as amended	A dredged slack-water harbor 800 feet long and 150 feet wide with a 400 by 800 foot turning basin.	Approved Sep. 11, 1978, under authority of Sec. 107 of the River and Harbor Act of 1960, as amended
	LAKE PROVIDENCE HARBOR, LA (See Section 2 of Text)	
Jul. 14, 1960, as amended	Dredging 0.7-mile channel and turning basin in an old chute of the Mississippi River, with the dredged material used to fill in a port area provided by local interests.	Approved Sep. 12, 1962, under authority of Sec. 107 of the River and Harbor Act of 1960, as amended
	MADISON PARISH PORT, LA (See Section 3 of Text)	
Jul. 14, 1960, as amended	The project consists of constructing a navigation channel 150 feet wide and 1,000 feet long, transitioning into a 200-foot-wide channel 400 feet long with a 350- by 1,100-foot turning basin adjacent to the port area. Dredged material will be disposed into lands furnished by local interests.	Approved Sep. 12, 1962, under authority of Sec. 107 of the River and Harbor Act of 1960, as amended
	OUACHITA AND BLACK RIVERS BELOW CAMDEN, AR (See Section 4 of Text)	
May 17, 1950	Modification of existing project to provide for 9-foot channel and deepening canal to Felsenthal, AR.	S. Doc. 117, 81st Cong., 1st sess.
Jul. 14, 1960	Modification of 9-foot project to provide four new locks and dams and channel improvements.	S. Doc. 112, 86th Cong., 2d sess.
Dec. 31, 1970	Migratory waterfowl refuges on Bayou D'Arbonne in connection with the pool of the Columbia Lock and Dam and in the pool of the Felsenthal Lock and Dam.	Report of the Chief of Engineers dated Nov. 25, 1970, and H. Doc. 92-109, 92d Cong., 1st sess.
	OVERTON-RED RIVER WATERWAY, LA (See Sec. 5 of Text)	
Jul. 24, 1946	Construct 9- by 100-foot channel for 206 miles from Mississippi River, mile 301 AHP, through Old and Red Rivers to mile 31, thence by lateral canal through land cuts and existing waterways across Mississippi-Red River backwater area along south bank of Red River floodplain to Shreveport, and construct nine locks and pumping plant on Red River near Shreveport.	H. Doc. 320, 80th Cong., 1st sess.
May 17, 1950	Extend Overton-Red River Waterway 9- by 100-foot channel from Mississippi River to north bank of Black River, mile 35.5.	S. Doc. 117, 81st Cong., 1st sess.
Aug. 13, 1968	Provides for the navigation channel to be 200 feet wide.	H. Doc. 304, 90th Cong., 2d sess.[1]
	PEARL RIVER, MS AND LA (See Section 6 of Text)	
June 14, 1880	Provided for a 5-foot channel.	H. Doc. 98, 45th Cong., 3d Sess.
Apr. 21, 1900	Legalized construction of a fixed highway bridge at Rockport	H. Doc. 145, 65th Cong., 1st Sess.
Aug. 30, 1935	A channel from the mouth of West Pearl River for 58 miles to the mouth of Bogalusa Creek at Bogalusa, LA, 7 feet deep at low water with a bottom width of 100 feet in the river sections and 80 feet in the canal section; with locks 65 by 310 feet clear inside dimensions.	H. Doc. 408, 75th Cong., 2d sess.
Nov. 7, 1966	Construction of cut-offs and easement of critical bends at eight locations below lock 1 with no increase in project depth.	H. Doc. 482, 89th Cong., 2d sess.
Jun. 13, 1983	Accomplish the 4-PT plan improvements on the Pearl River in the vicinity of Jackson, MS.	S. Doc. 153, 98th Cong., 1st sess.
Jul. 20, 1983	Design and construct protection to prevent flooding along the Pearl River in the vicinity of Jackson, MS.	H. Doc. 5363, 98th Cong., 1st sess.
	RED RIVER EMERGENCY BANK PROTECTION (See Sec. 7 of Text)	
Aug. 13, 1968	Realining the banks by dredging cut-offs and training works and stabilizing banks by means of revetments and dikes.	H. Doc. 304, 90th Cong., 2d sess.

TABLE 12-B (Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	RED RIVER WATERWAY-MISSISSIPPI RIVER TO SHREVEPORT, LA (See Sec. 8 of Text)	
Aug. 13, 1968	Develop a 9 by 200 feet, approximately 210 miles long from Mississippi River at junction of Old River via Old River and Red River to Shreveport, LA, consisting of realinement, bank stabilization, and construction five locks and dams.	H. Doc. 304, 90th Cong., 2d sess.
	ROSEDALE HARBOR, MISS. (See Section 9 of Text)	
Jul. 14, 1960, as amended	The harbor channel is 150 feet wide and 2.7 miles long with a turning basin 1,000 feet long and 400 feet wide. A minimum operating depth of 9 feet below the lowest water of record (102.5 feet, NGVD) was maintained in both the channel and turning basin and provided a 20-acre landfill to a net elevation of 162.9, NGVD. The landfill is 1,250 feet long and 700 feet wide. An access roadfill was constructed from Mississippi Highway 1 to the port site.	Approved Sep. 12, 1962, under authority of Sec. 107 of the River and Harbor Act of 1960, as amended.
	YAZOO RIVER, MS (See Section 10 of Text)	
Mar. 3, 1875	Removal of obstructions to navigation from mouth to Greenwood, MS, 189 miles.	
Aug. 13, 1968	Nine-foot channel from mouth to Greenwood, mile 154.9 (present mileage), with a lock and dam near Vicksburg, channel improvements, alteration of bridges, additional storage space in Sardis Lake to augment low river flows, and recreation features.	H. Doc. 342, 90th Cong., 2d sess.
	BAYOU BARTHOLOMEW, AR AND LA (See Section 12 of Text)	
May 17, 1950	Authorized channel improvements on Bayou and Tributaries (see above).	S. Doc. 117, 81st Cong., 1st sess.
Nov. 7, 1966	Modified 1950 authorization to include 10 lakes in the west escarpment in Arkansas and 6 local levees in Louisiana, and acquisition of lands for mitigation of fish and wildlife losses. The previously authorized channel improvement was deferred until it is determined that the quality and quantity of water downstream will not be adversely affected.	H. Doc. 506, 89th Cong., 2d sess.
	BAYOU BODCAU AND TRIBUTARIES, AR AND LA (See Sec. 13 of Text)	
Oct. 27, 1965	Extend Cypress Bayou-Red Chute Bayou levee, construct stream closure landside drainage channel and three culverts on Red Chute Bayou, and clearing and snagging channel; extend Flat River-Loggy Bayou levee, close Flat River near junction with Cutoff Bayou, and construct control structures on Flat River near junction with Red Chute Bayou; and enlarge Flat River channel to 20 to 35 feet, a distance of 11.6 miles.	H. Doc. 203, 89th Cong., 1st sess.
	BAYOU BODCAU RESERVOIR, LA (See Sec. 14 of Text)	
Jun. 28, 1938	Provides for construction of a reservoir and other flood control works.	H. Doc. 378, 74th Cong., 2d sess.
	BAYOU PIERRE, LA (See Sec. 15 of Text)	
Jun. 22, 1936	Widening channel at intervals totaling 12.9 miles, and snagging of 29.7 miles.	H. Doc. 378, 74th Cong., 2d sess.
	CADDO LAKE, LA (See Sec. 17 of Text)	
Oct. 27, 1965	Maintenance Work.	S. Doc 39, 89th Cong., 1st sess.
	LEAD BAYOU, MS (See Section 19 of Text)	
Jun. 30, 1948, as amended	Channel enlargement.	Sec. 205 of the Flood Control Act of 1948, as amended. Authorized by Chief of Engineers Jun. 10, 1980.

TABLE 12-B (Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	MONROE FLOODWALL, LA (See Section 20 of Text)	
May 17, 1950	Partial closure of gap in floodwall.	S. Doc. 117, 81st Cong., 2d sess.
Oct. 27, 1965	Closure of gap in floodwall (Plan C).	H. Doc. 328, 88th Cong., 2d sess.
Nov. 7, 1966	Closure of gap in floodwall (Plan B).	H. Doc. 328, 88th Cong., 2d sess.
	OUACHITA RIVER AND TRIBUTARIES, AR AND LA (See Section 23 of Text)	
May 17, 1950	Authorized DeGray Lake; Murfreesboro Lake; extension of floodwall at Monroe to partially close the existing gap; local protection at Bawcomville, LA (subsequently constructed under Sec. 6, Act of May 15, 1928, with local interests contributing one third of cost); Bayou Bartholomew channel improvement, including Deep Bayou and Overflow Creek; Pine Bluff local protection; local protection at Calion, AR; and incorporation, into the Ouachita River and Tributaries project, of all existing projects and portions thereof in the basin above the lower end of the levees on the east bank of the Ouachita River. In addition, the Chief of Engineers authorized on Nov. 14, 1966, additional work on the levees.	S. Doc. 117, 81st Cong., 1st sess.
	PORTER BAYOU, MS (See Section 24 of Text)	
Jun. 30, 1948, as amended	Selective snagging and clearing of Porter Bayou, MS from mile 12.5 to mile 32.3.	Sec. 205 of the Flood Control Act of 1948, as amended. Authorized by Chief of Engineers, Feb. 18, 1982.
	RED RIVER BELOW DENISON DAM LEVEES AND BANK STABILIZATION (VICKSBURG DIST.) (See Sec. 26 of Text)	
Jul. 24, 1946	Levee and bank stabilization.	H. Doc. 602, 79th Cong., 2d sess.
Aug. 13, 1968	Deauthorization of Morringsport Dam and Reservoir on Cypress Creek; realining and stabilizing the banks of the Red River; and recreational facilities from the Mississippi River to Denison Dam, OK and TX.	H. Doc. 304, 90th Cong., 2d sess.
	RED RIVER WATERWAY-SHREVEPORT, LA, TO INDEX, AR (See Sec. 27 of Text)	
Aug. 13, 1968	Provides for realinement of the channels of the Red River from Shreveport, LA, to Index, AR.	H. Doc. 304, 90th Cong., 2d sess.
	WALLACE LAKE, LA (See Sec. 28 of Text)	
Jun. 22, 1936	Construction of an earth-fill dam and a reservoir.	H. Doc. 378, 74th Cong. 2d sess.

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1. Portion of existing project above mile 31 was reclassified to inactive status as approved by Office, Chief of Engineers, letter dated Oct. 18, 1971.

TABLE 12-C

OUACHITA AND BLACK RIVERS, AR AND LA (9-FOOT PROJECT), LOCKS AND DAMS

(See Section 4 of Text)

Location	Miles from Nearest Town	Miles Above Mouth of Black River	Width of Lock Chamber (feet)	Greatest Available Length for Full Width of Lock Chamber (feet)	Max. Lift at Low Water (feet)	Elev. Normal Pool Surface (feet msl)	Min. Depth on Lower Miter Sill at Normal Pool Level (feet)	Character or Foundation	Kind of Dam	Type of Construction	Per-cent Com-plete	Estimated Cost
Jonesville, LA	10	25	84	600	30	34	14	Piling	Movable	Tainter gated dam; bascule gated navigation pass; steel mitering lock gates	80[3]	$ 50,700,000[1,4]
Columbia, LA	5	117	84	600	18	52	13	do	do	Tainter gated dam; fixed crest navigation pass; steel mitering lock gates	70[3]	44,200,000[4]
Felsenthal, AR	1	227	84	600	18	70[2]	13	Earth	do	Tainter gated dam; navigation pass with inflatable dam on crest; steel mitering lock gates	71[3]	90,900,000[4]
Calion, AR	7	283	84	600	12	77	13	do	do	Tainter gated dam; hinged crest gated navigation pass; steel mitering lock gates	67[3]	67,200,000[4]
Total												$253,000,000[4]

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[1] Includes $6,113,700 for Catahoula Lake diversion channel and control structure.

[2] Fish and wildlife impoundment level.

[3] The percent complete last shown reflects only Lock and Dam construction. The new percent complete reflects all work within the pool. This now corresponds to estimated costs.

[4] The decrease in estimated costs from that last shown reflects full funding price leveling and some reductions based on actual contract awards.

TABLE 12-D

LOCKS IN PEARL RIVER PROJECT
(See Section 6 of Text)

Lock	Pearl River Lock No. 1	Pearl River Lock No. 2	Pearl River Lock No. 3
Miles above mouth	29.7	40.8	44.0
Nearest town	Pearl River, LA	Bush, LA	Sun, LA
Miles to nearest town	9	3	2
Width of Chamber	65	65	65
Greatest length available for full width (feet)	310	310	310
Lift (feet)	26.7	14	11
Depth over sills at low water (feet)	10	10	10
Character of foundation	Sand, gravel, silt, clay	Sand, gravel, silt, clay	Sand, gravel, silt, clay
Type of construction	Concrete and steel	Concrete and steel	Concrete and steel
Year completed	1949	1950	1950
Date opened for navigation	November 1958	November 1958	November 1958
Actual cost of lock	$2,119,100	$1,967,537	$1,497,539

Note: The responsibility of maintaining this project was transferred to the Vicksburg District, Lower Mississippi Valley Division on Oct. 1, 1981. District boundaries have been changed.

TABLE 12-E OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report For:	Cost to Sep. 1983 Construction	Cost to Sep. 1983 Operation and Maintenance	Mo. and Yr. Completed
Bayou Bartholomew, LA and AR[1, 2, 3, 4]	-	1931	$ 45,874	$ 42,857	[1]
Bayous D'Arbonne and Corney, LA[1, 2, 4]	-	1941	19,000	37,804	[1]
Big Black River, MS[1, 4, 5]	-	1895	15,000	-	[1]
Big Sunflower River, MS[1, 4, 6, 7]	-	1942	560,027	459,328	[1]
Boeuf River, LA[1, 3, 4, 7, 8, 9]	-	1949	30,000	103,737	[1]
Cypress Bayou and Waterway between Jefferson, TX, and Shreveport, LA[15]	Complete	1971	202,817	452,611	Dec. 1914
Homochitto River, MS[4]	-	1910	15,482	8,518	[1]
Little Missouri River, AR[1, 4, 5]	-	1873	19,992	-	[1]
Little River, LA[1, 4, 5, 10]	-	1890	1,500	-	[1]
Little Tallahatchie River, MS[1, 7]	-	1913	19,000	-	[1]
Mouth of Yazoo River, MS[1, 7, 11]	-	1953	1,179,211	145,217	[1]
Ouachita and Black Rivers, AR and LA, Felsenthal Canal	-	1937[12]	-	-	[1]
Red River below Fulton, AR[1, 16, 17, 18]	-	1978	1,963,806	2,147,890	[1]
Red River Waterway LA, AR, OK, and TX[1, 17, 18]	-	1969	-	-	[1]
Red River Waterway, Shreveport, LA to Daingerfield, TX[1]	-	1976	70,000	-	[1]
Removing snags and wrecks from Mississippi River below mouth of Missouri River and from Old and Atchafalaya Rivers[11]	-	1948	-	272,500	[1]
Saline River, AR[1, 3, 4, 5]	-	1931	26,900	12,792	[1]
Tallahatchie and Coldwater Rivers, MS[1, 4, 5]	-	1939	43,481	173,066	[1]
Tensas River and Bayou Macon, LA[1, 8, 12]	-	1949	38,367	85,352	[1]
Yalobusha River, MS[1, 1, 5, 14]	-	1937	7,000	15,936	[1]

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1. Status and Date unavailable.
2. Abandonment recommended in H. Doc. 1962, 64th Cong., 2d sess., and H. Doc. 467, 69th Cong., 1st sess.
3. Channels adequate for existing commerce.
4. Inactive project. No commerce.
5. Abandonment recommended in H. Doc. 467, 69th Cong., 1st sess.
6. Project curtailment recommended by elimination of work between Pentecost and mouth of Hushpuckena River. (Abandonment of entire project erroneously recommended in H. Doc. 467, 69th Cong., 1st sess.)
7. See report of Mississippi River Commission for operations in connection with Yazoo Basin.
8. Report of New Orleans District, pp. 919-920 for Fiscal Year 1949.
9. Project curtailment recommended by elimination of work above Girard, LA (Abandonment of entire project recommended erroneously in H. Doc. 467, 69th Cong., 1st sess.)
10. Due to decline of traffic, local interests not sufficiently interested to provide rights-of-way and dumping privileges.
11. No additional funds available under this project. Work is being carried on under appropriation flood control, Mississippi River and tributaries.
12. Year authorized.
13. Inactive. Channel adequate for commerce.
14. See report of Mississippi River Commission for operations in connection with Yazoo Basin flood control project including channel clearing and rectification and Grenada Lake on Yalobusha River.
15. Excludes $50,000 contributed funds.
16. Includes $1,553,878 for previous projects.
17. Incorporated in the project "Red River Waterway-Mississippi River Shreveport, LA" Sept. 30, 1976.
18. Emergency bank protection on this project is reported separately as "Red River Emergency Bank Protection." Two reaches, "Red River Waterway-Mississippi River to Shreveport, LA" and "Red River Waterway-Shreveport, LA, Daingerfield, TX," are also reported separately.

TABLE 12-F OUACHITA RIVER AND TRIBUTARIES: EXISTING PROJECT (See Section 23 of Text)

Project	For Last Full Report See Annual Report for:	Estimated Federal New Work Cost
Blakely Mt. Dam-Lake Ouachita, AR	(1)	$ 44,100,000
DeGray Lake, AR	(1)	72,034,000[2]
Narrows Dam-Lake Greeson, AR	(1)	20,900,000
Calion, AR	1960	970,996[3]
Columbia, LA	1941	204,740[3]
Existing levees and extensions thereto from Bastrop, LA, to mouth of Boeuf River and at West Monroe, LA	1961	3,025,181[3]
Little Missouri River below Murfreesboro, AR	1957	354,802[3]
Ozan Creek, AR	1957	57,742[3]
Terre Noire Creek, AR	1948	123,700[3]
Pine Bluff, AR, local protection	1954	172,582[3]
Monroe, LA, floodwall extension (Plan B)	(1)	2,561,000[3]
Bayou Bartholomew and Tributaries, AR and LA	(1)	44,800,000
Ouachita River Levees (additional work)	(1)	9,400,000
Total		$198,704,743[4]

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1. See individual reports herein.
2. Includes $5,800,000 for water supply, to be reimbursed by local interests.
3. Actual cost of completed project.
4. Excludes the authorized Murfreesboro Lake, AR, project, which is inactive. The latest estimated cost (1954) was $4,190,000.

TABLE 12-G RESERVOIR OPERATIONS FISCAL YEAR 1983

See Section in Text	Project		Storage (acre feet)	Inflow[1]	Outflow[1]
24.	Bayou Bodcau[2] Reservoir, LA	Oct. 1, 1981	249	-	-
		Sep. 30, 1982	310	-	-
		Jul. 2, 1982 (Max)	11,340	-	-
		Jun. 29, 1982 (Max)	-	1,664	-
		Jul. 2, 1982 (Max)	-	-	1,125
36.	Wallace Lake, LA	Oct. 1, 1981	7,655	-	-
		Sep. 30, 1982	7,319	-	-
		Apr. 24, 1982 (Max)	11,739	-	-
		Apr. 23, 1982 (Max)	-	1,013	-
		Apr. 24, 1982 (Max)	-	-	634

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1. Cubic feet per second.

60

TABLE 12-H

RED RIVER BELOW DENISON DAM (VICKSBURG DISTRICT): NEW PROJECTS (See Sec. 25 of Text)

Project	Stream	Drainage Area (square miles)	Conservation Storage (acre-feet)	Flood Control (acre-feet)	Estimated Federal Cost
Bayou Bodcau and tributaries, AR[1, 2]	-	1,158	-	-	$ 24,100,000[3]
Bayou Nicholas-Coushatta, LA	-	-	-	-	70,717[4]
Bayou Pierre in vicinity of Shreveport, LA[5]	-	-	-	-	243,336[3]
Caddo Lake, LA[1]	Caddo Lake	-	-	-	3,587,800[2]
Campti-Clarence Area in Natchitoches Parish, LA	Red River	-	-	-	1,950,000[3]
Garland City, AR[1, 6]	-	-	-	-	1,450,000[3]
Maniece Bayou, AR	-	-	-	-	970,032[3]
McKinney Bayou, AR[7, 8]	-	-	-	-	5,610,000[3]
Posten Bayou, AR and LA[2, 6, 9]	-	-	-	-	560,000
Red River below Denison Dam levees and bank stabilization, TX, AR, and LA (New Orleans District)[1, 3]	-	-	-	-	59,000,000[3]
Total					97,541,885

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1. Details presented in individual report herein.
2. Construction on this project not started.
3. In addition, non-Federal funds are:

Bayou Bodcau and tributaries, AR and LA	$5,300,000
Bayou Pierre in vicinity of Shreveport, LA (cash contribution)	89,047
Caddo Lake, LA	28,000
Campti-Clarence Area in Natchitoches Parish, LA	480,000
East Point	67,000
Garland City, Ark	6,000
Maniece Bayou, AR (cash contribution)	18,000
McKinney Bayou, AR (cash contribution)	508,000
Red River below Denison Dam, levees and bank stabilization, TX, AR, and LA	1,560,000

4. For last full report, see Annual Report for 1964.
5. For last full report, see Annual Report for 1951.
6. Inactive.
7. Includes $4,330,200, Code 711, and $399,739 accelerated Public Work funds.
8. Joint-use pool (sediment).
9. Deauthorized by resolution Dec. 17, 1970, which also authorized new project "Posten Bayou, AR," under provision of Sec. 201 of Flood Control Act of 1965.

TABLE 12-I RED RIVER BELOW DENISON DAM (VICKSBURG DISTRICT): INCORPORATED PROJECTS
(See Sec. 25 of Text)

Project	Type of Work	Flood Control Act	Estimated Federal Cost	For Last Full Report See Annual Report For
Aloha-Rigolette Area, Grant and Rapides Parishes, LA	Levee and appurtenances	1941	$ 1,653,237[1]	1956
Bayou Bodcau Reservoir, LA[2]	Flood-control reservoir	1938	5,120,740[1, 3]	[4]
Bayou Bodcau, Red Chute, and Loggy Bayou, LA	Channel improvement	1941	319,200[1]	1948
Bayou Pierre, LA	Channel enlargement	1936	299,529[1]	[4]
Black Bayou Lake, LA[5, 6]	Flood-control reservoir	1936	714,000	1945
Colfax, Grant Parish, LA	Cutoff	1938	70,348[1, 7]	1938
Grant Parish, below Colfax, LA	Levees	1938	38,809[1]	1941
Hempstead County levee district No. 1, AR	Levee enlargement	1938	88,006[1]	1941
Natchitoches Parish, LA	Levee and appurtenances	1936	1,529,927[1, 8]	1956
Pineville, Red River, LA	Levee and appurtenances	1941	232,426[1]	1953
Red River in vicinity of Shreveport, LA	Bank protection	1944	3,908,000[1]	1953
Red River Parish, LA	Levee enlargement	1936	149,435[1]	1939
Saline Point, LA	Cutoff	1936	124,111[1]	1945
Wallace Lake, LA	Flood-control reservoir	1936	1,219,371[1, 3]	[4]
Total			$15,467,134	

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1. Actual cost.
2. Project transferred to Vicksburg District August, 1982.
3. Includes amounts indicated for recreational facilities under Code 711, Bayou Bodcau Reservoir, LA, $1,027,000; Wallace Lake, LA, $17,164.
4. Included in this report.
5. Work not started.
6. Inactive.
7. Completed under provisions of Sec. 7 of Flood Control Act of 1928, as amended by Sec. 9 of Flood Control Act of 1936, and included in 1939 Annual Report of President, Mississippi River Commission, p. 2214.
8. In addition, $25,000 was expended from contributed funds.

TABLE 12-J

OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Mo. and Yr. If Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. If Completed
			Construction	Operation and Maintenance	
Aloha-Rigolette Area, Grant and Rapides Parishes, LA[1]	-	1956	$1,653,189	$ -	Apr. 1955
Bayou Bodcau, Red Chute, and Loggy Bayou, LA[1]	-	1948	319,200	-	Jan. 1948
Bayou Pierre in vicinity of Shreveport, LA[1,2]	-	1951	243,336[2]	-	Jun. 1939
Big Black River, MS[3]	-	1956	910,185	670,750	[3]
Big Choctaw Bayou, LA[3,4]	-	1966	248,823	-	[3]
Black Bayou Reservoir, LA[1,5,6]	-	1945	-	-	-
Buffalo River, MS[7]	-	1940	-	-	-
Campti-Clarence Area in Natchitoches Parish, LA	-	1978	1,655,700	-	Jul. 1978
Colfax, Grant Parishes, LA[1,8]	-	1938	70,348	-	-
East Point, LA	-	1969	286,069	-	Aug. 1968
Garland City, AR	-	1976	1,335,841	-	Jul. 1974
Grant Parish below Colfax, LA[1,3]	-	1941	38,809	-	[3]
Hempstead County Levee District No. 1, AR[1,3]	-	1941	88,006	-	[3]
Homochitto River, MS[3]	-	1956	205,000	144,650	[3]
Maniece Bayou, AR[1,2]	-	1970	970,932[2]	-	Aug. 1969
McKinney Bayou, Finn Bayou Segment, AR[9]	Aug. 1977	1963[9]	-	-	-
Murfreesboro Dam and Lake[4]	-	1951	-	-	-
Natchez Port Area, MS[3,4]	-	1969	538,000	-	[3]
Natchitoches Parish, LA[1,2]	-	1956	1,529,478	-	Aug. 1955
Pineville, Red River, LA[3,4]	-	1953	232,426	-	Dec. 1951
Posten Bayou, AR[10]	-	1973	-	-	-
Red River Parish, LA[1,3]	-	1939	149,435	-	[3]
Red River in vicinity of Shreveport, LA[1]	-	1953	3,908,000	-	Mar. 1953
Saline Point, LA[1,3]	-	1945	124,111	-	-
Twelvemile Bayou, LA[4]	-	1966	335,433	-	May 1965

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1. Authorized under project "Red River Below Denison Dam."

2. In addition, the following was expended from contributed funds:

Amite River and tributaries	$ 430
Bayou Pierre in vicinity of Shreveport, LA	89,047
Choctaw Bayou and Tributaries, LA	170,799
Harvey Canal, Bayou Barataria Levee, LA	425,209
Maniece Bayou, AR	39,293
Natchitoches Parish, LA	250,000

3. Completion Date Unavailable.

4. Authorized by Chief of Engineers under authority of Sec. 205. Flood Control Act of 1948, as amended.

5. Construction not initiated.

6. Inactive.

7. Deferred indefinitely because of insufficient justification under present conditions.

8. Completed under provisions of Sec. 7, Flood Control Act 1928, as amended by Sec. 9, Flood Control Act 1936, and included in 1939 Annual Report of President, Mississippi River Commission, p. 2214.

9. Date authorized.

10. Posten Bayou Project, authorized by Senate and House Resolutions, Dec. 17 and 15, 1970, deleted the plan authorized by the Flood Control Act dated Aug. 3, 1955.

TABLE 12-K ACTIVE GENERAL INVESTIGATIONS (96x3121)

Item and CWIS Number	Federal Cost FY 83	Totals by Categories
	($)	($)
SURVEYS (Category 100)		
Flood Control Studies (120)		
Ouachita River Basin, AR & LA -12046	1,116,494	
Pearl River Basin, MS and LA - 12234	841,630	
Pine Bluff Metro Area, AR - 12015	12,527	
Subtotal	1,970,651	
Comprehensive Studies (150)		
Red River Below Denison Dam (153) - 81129	244,291	
Miscellaneous Activities (170)		
Special Investigations (171) - 17250	9,100	
Review of FERC Licenses (172) - 53857	337	
Subtotal	9,437	
Coordination Studies with Other Agencies (180)		
Department of Agriculture, Soil Conservation Service (181) - 51840	2,146	
Planning Assistance to States (186) - 51850	0	
Technical and Engineering Assistance on Shoreline and Streambank (188) - 51731	6,824	
Subtotal	8,970	
TOTAL (Category 100)		2,233,349
COLLECTION AND STUDY OF BASIC DATA (Category 200)		
Inspection of Dams (230)		
Inventory of Dams	172	
Flood Plain Management Services (250)		
Flood Plain Management Services	199,006	
Hydrologic Studies (260)		
Hydrologic Studies (260) - 53820	5,584	
Subtotal	204,762	
TOTAL (Category 200)		204,762
ADVANCE E&D (Category 600)		
Navigation Projects (620)		
Locks and Dams, Yazoo River, MS (622) 00083	323,158	
Flood Control Projects (650)		
Local Protection, Red River Waterway, Shreveport to Index (651) - 75023	4,335	
Subtotal	327,493	
TOTAL (Category 600)		327,493
GRAND TOTAL GENERAL INVESTIGATIONS		2,765,604

MEMPHIS, TN, DISTRICT

This district comprises a portion of southeastern Missouri and southern Illinois, western portions of Kentucky and Tennessee, a small portion of northern Mississippi, and the northeastern portion of Arkansas; includes area embraced in drainage basins of eastern tributaries of the Mississippi River south of Ohio River Basin to Nonconnah and Horn Lake Creeks, inclusive, and those of western tributaries south of Little River diversion channel and Commerce, MO, including St. Francis River Basin and White River and tributaries below Peach Orchard Bluff, AR, on the right bank and below Augusta, AR, on the left bank; also includes left bank Mississippi River levee from vicinity of Memphis south to about mile 620, and right bank levees from Cape Girardeau, MO, to about mile 605.

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Navigation

1. CARUTHERSVILLE HARBOR, MO.

Location. In Pemiscot, MO, in an old river chute 3 miles north of the town of Caruthersville, MO, on the right bank of the Mississippi River, 349.5 miles above Head of Passes, LA.

Existing project. Authorized by the Chief of Engineers Nov. 4, 1980, under the authority of Sec. 107 of the River and Harbor Act of 1960, as amended. Harbor channel construction consisted of removal of 600,000 cubic yards of material from a 300- by 300-foot turning basin and provision of a 9- by 150-foot navigation channel, 4,680 feet long. The excavated material was placed on top bank, between retainer dikes and the mainline Mississippi River levee to form a flood-free fill to be developed as an industrial park by local interests.

Local cooperation. Fully complied with.

Terminal facilities. Facilities are being provided by the Pemiscot County Port Authority.

Operations and results during fiscal year. Leased dredge, *Natchez*, removed 250,030 cubic yards of material at a cost of $277,765 in August 1983 in maintaining project channel.

Condition as of Sep. 30. Federal participation in the project is complete except for expected future maintenance dredging.

2. HELENA HARBOR, AR

Location. In Phillips County, AR, on right bank of Mississippi River about 663 miles above Head of Passes, LA. (AHP).

Existing project. Authorized by Chief of Engineers, Sep. 20, 1962, under authority of Sec. 107 of the River and Harbor Act of 1960, as amended. Provides for maintenance of access channel with a depth of 9 feet below low water, between miles 659 and 663 APH, by dredging, and for enlarging the upstream 0.6 mile to dimensions of 9 feet deep by approximatly 450 feet wide. Remainder of channel conforms to project width of the main channel of Mississippi River. River stages recorded at Helena gage (zero is 141.70 feet msl) since 1871 have ranged between minus 3.0 and plus 60.21 feet with an average annual fluctuation of 40.6 feet.

Local cooperation. Fully complied with.

Terminal facilities. There are ten terminals within the harbor, two of which are publicly-owned. Others are a rail incline, a small boat dock, grain terminals, a petroleum products terminal, a midstream grocery and refueling service, a fuel unloading facility, and a fertilizer-loading facility.

Operations and results during fiscal year. No dredging was performed during FY 83 in Helena Harbor.

Condition as of Sep. 30. Project is complete and is being maintained to dimensions.

3. HICKMAN HARBOR, KY

Location. In Fulton County, KY, on left bank of Mississippi River about 922 miles APH.

Existing project. Authorized by Chief of Engineers, Jan. 12, 1962, under authority of Sec. 107 of the River and Harbor Act of 1960, as amended. Provides for dredging and maintaining harbor channel 250 feet wide with depth of 9 feet below low water, from main channel of Mississippi River at mile 922 AHP along former city waterfront about 1.1 miles, with the upper 600 feet forming a turning basin 500 feet wide. New work was completed in Fiscal Year 1963. River stages recorded since 1929 at Hickman gage (zero is 264.73 feet msl) have ranged between minus 0.4 and plus 51.5 feet with average annual fluctuation of 38 feet.

Local cooperation. Fully complied with.

Terminal facilities. Within harbor are terminals for handling petroleum products, sand and gravel, and timber and grain, which are publicly and privately owned; there is about 0.2 mile of surfaced, public mooring and launching area.

Operations and results during fiscal year. Leased dredge, *Natchez*, removed 387,918 cubic yards of material in July 1983 in maintaining project channel. Expenditure was $407,961.

Condition as of Sep. 30. Project was completed Jan. 20, 1961, and is being maintained to project dimensions.

4. NEW MADRID HARBOR, MO

Location. New Madrid County, MO, on right bank of the Mississippi River about 889 miles AHP.

Existing project. Construction and subsequent maintenance of a harbor channel 150 feet wide with a depth of 9 feet below low water from the head of New Madrid Bar, about mile 889 AHP, along the city waterfront downstream for a distance of about 9,400 feet, with a 250-foot-radius turning basin at the downstream end. The project was authorized by the Chief of Engineers, Feb. 21, 1968, under Sec. 107 of the River and Harbor Act of 1960, as amended.

Local cooperation. Fully complied with.

Terminal facilities. Within the harbor are privately owned terminals for handling petroleum products, logs and lumber, and soybeans and grain. Terminal facilities are considered adequate for present and immediately foreseeable commerce.

Operations and results during fiscal year. Expended $19,688 for Construction and Operation studies.

Condition as of Sep. 30. Project was completed Oct. 2, 1970, and is being maintained to project dimensions.

5. OSCEOLA HARBOR, AR

Location. Mississippi County, AR, on the right bank of the Mississippi River at about 784 miles AHP.

Existing project. The project was authorized by the Chief of Engineers, Sep. 30, 1971, under Sec. 107 of the River and Harbor Act of 1960, as amended. Harbor channel construction consisted of removal of 689,705 cubic yards of material from the harbor channel to provide a navigation channel 250 feet wide and 9 feet deep from the Mississippi River navigation channel at the downstream end of the old chute of Island 30, upstream along the old bendway channel for a line distance of 6,500 feet. A 250-foot-radius turning basin is provided at the upstream end of the harbor channel. The excavated material removed from the channel was placed on the top bank between the old bendway channel and the main line Mississippi River levee to form a flood-free industrial park to be developed by local interests. Latest published map is in 1980/48th edition, Flood Control and Navigation Maps of the Mississippi River, prepared under the direction of President, Mississippi River Commission.

Local cooperation. Fully complied with.

Terminal facilties. Public terminal facilities have been provided by Osceola Riverport Authority.

Operations and results during fiscal year. Leased dredge, *Natchez*, removed 528,984 cubic yards of material for channel maintenance during August 1983. Total expenditure was $649,006.

Condition as of Sep. 30 Project, begun Sep. 30, 1970, was completed Nov. 13, 1974, and is being maintained to project dimensions.

6. WHITE RIVER, AR (BELOW NEWPORT)

Location. Rises in northwestern Arkansas and flows 686 miles first north into Missouri, thence southeasterly through Arkansas to the Mississippi River 64 miles below Helena, AR. (See Mississippi River Commission alluvial valley maps, scales 1:62,500 and 1:500,000 and map folio, May 1973, of White River, vicinity of Batesville, AR, to Mississippi River, scale 1:24,000.) White River enters Memphis District at foot of Peach Orchard Bluff, AR, 165 miles above its mouth; but Memphis District is responsible for maintenance of navigation channel from mile 10.0 to mile 254.0, Newport, AR.

Previous projects. For details, see page 1874, Annual Report for 1915, and page 938, Annual Report for 1938.

Existing project. Maintenance of a channel 4.5 feet deep by 100 feet wide between mouth of river and Batesville, 296 miles, by snagging, dredging, and contraction works. Maintenance discontinued after Fiscal Year 1951 due to negligible traffic; dredging and snagging resumed in 1962. White River channel from mouth to mile 10 has been improved and is being maintained as part of the Arkansas River Project. The existing project was modified by OCE, Mar. 11, 1968, under authority of Sec. 107 of the 1960 River and Harbor Act, as amended, to provide a 125-foot-wide channel with minimum depth of 5 feet and a depth of 8 feet at a stage of 12 feet on the Clarendon gage. This modification has been completed and increased dimensions extend from the mouth to Augusta, at mile 199. In February 1971, OCE authorized resumption of maintenance from Augusta to Newport.

Local cooperation. Fully complied with.

Terminal facilities. Consist of terminals for handling riprap stone, sand and gravel, logs, soybeans, wheat, and rice at Augusta (mile 198); logs, soybeans, wheat, and rice at Des Arc (mile 143); logs, lumber, soybeans, and rice at Clarendon (mile 99); soybeans at Crocketts Bluff (mile 63); soybeans, rice, sand, gravel, and crushed stone at St. Charles (mile 57); riprap stone at Benzal (mile 7.5); and public launching ramp at I-40 bridge.

Operations and results during fiscal year. Dredging was performed at various locations between mile 10 and mile 255 to provide project width and depth. Leased dredge, *Tulsa*, moved 1,343,570 cubic yards of material in maintaining project channel. Snagging operations were resumed June 1983 by hired labor. Total project Fiscal Year 1983 cost was $944,596.

Conditions as of Sep. 30. Project is complete and is being maintained to project dimensions.

7. WOLF RIVER (MEMPHIS HARBOR), TN

Location. Rises near western edge of Tippah County, MS, and flows generally northwesterly through Shelby County, TN, entering the Mississippi River above Memphis, TN (mile 738.7 AHP). The lower 3.5 miles of channel, parallel to the Mississippi River along the Memphis waterfront, became a slack-water harbor when Wolf River was diverted through Mud Island to the Mississippi River by a flood control project, Wolf River and tributaries, under the Flood Control Act of 1958. (See Mississippi River Commission alluvial valley maps, scales 1:62,500 and 1:500,000, and folio of Flood Control and Navigation Maps of the Mississippi River, Cairo, IL, to Gulf of Mexico, scale 1:62,500, revised annually.)

Previous projects. For details see pages 701 and 702, Annual Report for 1962.

Existing project. The project provides a channel 9 feet deep at low water from mouth to mile 3, with bottom widths of 250 feet from mouth to Keel Avenue (mile 1.75) and 200 feet from Keel Avenue to mile 3.

Local cooperation. Fully complied with.

Terminal facilities. Twenty terminals along project channel. One terminal is operated by Coast Guard, two by contract carriers, and 17 are operated privately.

Operations and results during fiscal year. Leased dredge, *Natchez*, removed 114,718 cubic yards of material in September 1983, in maintaining the channel. Total Fiscal Year 1983 expenditure was $151,407.

Condition as of Sep. 30. Project began May 15, 1928, and is maintained to project dimensions.

8. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization).

No work done under this authorization.

Flood Control

9. BRADFORD, TN

Location. Bradford is located in Gibson County, TN.

Existing project. Authorized July 18, 1983, under the authority of Section 208 of the 1954 Flood Control Act, as amended. The plan of improvement consists of the clearing and snagging of approximately 5500 feet of channel and riprap protection for two street bridges and one railroad bridge. The estimated construction cost is $95,700. Flood protection for approximately 88 structures including residences, businesses and schools will be provided and no significant adverse environmental effects will result.

Local cooperation. Local interests have furnished the required assurances.

Condition as of Sep. 30. Contract awarded in fourth quarter of FY 83. Construction to be completed in the second quarter of FY 84.

10. DRINKWATER SEWER, MO

Location. The Big Lake Basin is located immediately north of Charleston in Scott and Mississippi Counties, MO, and approximately 4.5 miles west of Cairo, IL.

Existing project. Authorized under authority of Section 205 of the Flood Control Act of 1948, as amended. Construction of a 150-cubic-feet-per-second pumping plant just north of the existing gravity outlet, with an 855-foot inlet channel to connect the pumping plant with the existing Big Lake Ditch, and an energy dissipator (baffled outlet) at the pumping plant outfall. This will provide relief during the Mississippi River flood stages, for 8.5 square miles of agricultural land from a watershed totaling 27.6 square miles.

Local cooperation. Local interests have furnished the required assurances.

Operations and results during fiscal year. The design of the vacuum breaker valve was modified to allow pump operation at low tailwater conditions. Construction on this modification is complete.

Condition as of Sep. 30. Complete June 30, 1980.

11. HUNTINGDON, TN

Location. In Carroll County, TN.

Existing project. Authorized Aug. 11, 1976, under authority of Sec. 205 of the 1948 Flood Control Act, as amended. The plan consists of 1,110 feet of channel enlargement, 1,870 feet of vertical wall concrete channel and 3,320 feet of grouted riprap channel. First cost is $1,837,000. Protection to approximately 90 acres of highly developed urban lands will be provided and no significant adverse environmental effects will result.

Local cooperation. Fully complied with. For details, see Page 13-5, Annual Report for FY 1980.

Condition as of Sep. 30. Construction was completed Sep. 11, 1981.

12. LONG LAKE AREA, HELENA, AR

Location. The project is located immediately south of Helena, Phillips County, AR. The area is protected from flooding by the Mississippi River by the project levee, and primary drainage of the area through Long Lake Bayou.

Existing project. Authorized Dec. 16, 1975, under authority of Sec. 205 of the 1948 Flood Control Act, as amended. The authorized improvements consist of enlargement and cleanout of Long Lake Bayou, extending from the culvert upstream 5.6 miles to a point about 3/4 mile below Rabb Lake or some 10 miles below Helena. The plan also provides for revegetation of rights-of-way (about 100 acres) not required to remain open for channel maintenance purposes; and the project sponsor will be required to maintain the revegetated area after project construction.

Local cooperation. Fully complied with. For details, see Page 13-5, Annual Report for FY 1980.

Condition as of Sep. 30. Project was deauthorized July 1983.

13. NONCONNAH BLVD., NONCONNAH CREEK, TN

Location. The project site is on the left bank of Nonconnah Creek in a reach extending from about 550 feet upstream to 150 feet downstream of the Nonconnah Blvd. Bridge in Shelby County, Memphis, TN.

Existing project. Authorized under the authority of Section 14 of the Flood Control Act of 1946. This project provides protection for the Nonconnah Blvd. Bridge from streambank caving. The improvements consist of grading and placing riprap on about 700 feet of eroding streambank.

Local cooperation. Local interests have furnished the required assurances.

Condition as of Sep. 30. Construction began in Sep. 1981 and was completed in November 1981.

14. NORTH SECOND STREET, MEMPHIS, TN (WOLF RIVER BRIDGE)

Location. The project site is on the left bank of the Wolf River approximately one mile above its confluence with the Mississippi River at the North Second Street Bridge in Shelby County, Memphis, TN.

Existing project. Authorized under the authority of Section 14 of the Flood Control Act of 1946. This project provides protection for the North Second Street Bridge from streambank caving. The improvements consist of grading and placing riprap on the eroding river bank, approximately 250 feet downstream and 800 feet upstream from the bridge.

Local cooperation. Local interests have furnished the required assurances.

Condition as of Sep. 30. Complete.

15. US HWY 51, NONCONNAH CREEK, TN

Location. The project site is on the left bank of Nonconnah Creek in a reach extending from the US Hwy 51 bridge upstream about 500 feet, in Shelby County, Memphis, TN.

Existing project. Authorized under the authority of Section 14 of the Flood Control Act of 1946. This project provides protection for the US Hwy 51 bridge from streambank caving. The improvements consist of filling and grading the bank and providing protection for the bank via rock-filled gabions.

Local cooperation. Local interests have furnished the required assurances.

Condition as of Sep. 30. A contract for construction of the project was awarded on Sep. 30, 1982, and work was completed in March 1983.

16. WEST HICKMAN AREA, HICKMAN, KY

Location. This project is located in the western section of the city of Hickman, Fulton County, KY. The area is protected from flooding by the Mississippi River by a levee and floodwall on the west.

Existing project. Authorized Aug. 9, 1973, under authority of Sec. 205 of the 1948 Flood Control Act, as amended. The plan of improvement consists of installing a flap gate on the existing box culvert through the old levee to prevent backwater flooding from Bayou du Chien, excavation of a 3.8-acre sump area, and construction of a 190-cfs pumping plant to reduce flooding from interior runoff. About 800 feet of interior channel will be reshaped through the excavated sump area, 190 feet of new outlet ditch will be built from the pump discharge to the existing outlet ditch, and 300 feet of the existing ditch is to be cleaned out and/or enlarged.

Local cooperation. Fully complied with. For details, see Page 13-5, Annual Report for FY 1980.

Condition as of Sep. 30. Completed Oct. 15, 1976.

17. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspected completed projects at a cost of $81,853 in the period. Total cost as of Sep. 30, 1983, was $847,110. This included in-depth inspection of projects.

18. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Sec. 205, Public Law 858, 80th Cong., as amended (preauthorization).

During the period $87,925 was expended for detailed studies on Little Hatchie and Kise Creeks, TN; $49,746 on Humboldt, TN; $69,816 on Caney Creek, AR; and $7,500 on Cane Creek, Jackson, TN; and $7,782 on Martin Beach, Clarendon, AR

Emergency bank protection (Sec. 14 of 1956 Flood Control Act, Public Law 526, 79th Cong.). During FY 1983, a reconnaissance study was completed on Sandy Creek, Jackson, TN, at a cost of $5,766.

Emergency flood control activities—repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation). Federal cost was $1,232,021.58 for disaster preparedness.

TABLE 13-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
1.	Caruthersville Harbor, MO	New Work					
		Approp.	$ 70,000	$ 618,500	$ -	$ -	$ 748,500
		Cost	53,017	636,305	-	-	768,992
		Maint.					
		Approp.	-	280,000	252,000	318,000	850,000
		Cost	-	278,311	229,758	277,765	785,834
2.	Helena Harbor, AR	New Work					
		Approp.	-	-	-	-	90,847
		Cost	-	-	-	-	90,847
		Maint.					
		Approp.	66,400	303,000	362,000	214,000	2,245,400
		Cost	199,782	283,522	360,390	15,861	2,019,835
3.	Hickman Harbor, KY	New Work					
		Approp.	-	-	-	-	149,827
		Cost	-	-	-	-	149,827
		Maint.					
		Approp.	200,900	282,000	252,000	419,000	2,197,748
		Cost	347,859	277,569	249,585	407,961	2,179,649
4.	New Madrid Harbor, MO	New Work					
		Approp.	-	-	-	-	196,373
		Cost	-	-	-	-	196,373
		Maint.					
		Approp.	1,000	-	11,000	10,000	387,500
		Cost	451	513	1,366	19,688	385,509
5.	Osceola Harbor AR	New Work					
		Approp.	-	-	-	-	269,115
		Cost	-	-	-	-	269,115
		Maint.					
		Approp.	274,900	555,000	541,000	717,000	3,688,000
		Cost	570,780	694,079	554,773	649,006	3,613,397
6.	White River, AR (below Newport)	New Work					
		Approp.	-	-	-	-	169,994[1]
		Cost	-	-	-	-	169,994[2]
		Maint.					
		Approp.	917,000	878,200	1,933,000	875,000	12,164,603
		Cost	674,208	1,258,457	1,871,545	944,596	11,857,286
7.	Wolf River (Memphis Harbor), TN	New Work					
		Approp.	-	-	-	-	586,500
		Cost	-	-	-	-	586,500
		Maint.					
		Approp.	213,000	630,000	441,000	473,000	6,475,488
		Cost	59,473	783,129	410,893	151,407	6,112,216
9.	Bradford, TN	New Work					
		Approp.	-	-	37,500	132,500	170,000
		Cost	-	-	36,790	23,283	60,073
10.	Drinkwater Sewer MO	New Work					
		Approp.	35,000	37,000	47,000	-	1,991,000
		Cost	535	60,581	39,975	23,818	1,491,891
11.	Huntingdon, TN	New Work					
		Approp.	1,395,000	1,032,000	2,500	-	2,899,500
		Cost	1,651,613	1,030,028	14,903	-	2,900,281
12.	Long Lake area, Helena, Ark.	New Work					
		Approp.	-39,000	-	-	-	62,000
		Cost	3,629	-	-	-	61,281
13.	Nonconnah Blvd.; Nonconnah Creek, TN	New Work					
		Approp.	-	55,000	195,000	-	250,000
		Cost	-	21,237	228,762	-	249,999

TABLE 13-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
14.	North Second Street, Memphis, TN (Wolf River Bridge)	New Work					
		Approp.	219,000	-	-	-	250,000
		Cost	220,105	10,714	-	-	249,999
15.	US Hwy 51, Nonconnah Creek, TN	New Work					
		Approp.	-	7,000	230,000	-25,000	212,000
		Cost	-	6,224	169,403	192,905	368,532
16.	West Hickman area, Hickman, KY	New Work					
		Approp.	42,000	-	-	-	1,656,692[3]
		Cost	24,410	33,194	8,131	-	1,674,280[3]

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1. Excludes $25,000 expenditures for early construction; includes $20,245 for preauthorization studies on Sec. 107 Project.

2. Excludes $17,500 contributed funds expended.

3. Includes $40,992 for preauthorization studies on Sec. 205 Project.

TABLE 13-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	CARUTHERSVILLE HARBOR, MO (See Sec. 1 of Text)	
Jul. 14, 1960, as amended	Channel 9 feet deep at low water and 150 feet wide, 4,680 feet long in a right bank chute at mile 849.5 AHP	Approved Nov. 4, 1980[1]
	HELENA HARBOR, AR (See Sec. 2 of Text)	
Jul. 14, 1960, as amended	Channel 9 feet deep at low water between miles 659 and 663 AHP.	Approved Sep. 20, 1962.[1]
	HICKMAN HARBOR, KY (See Sec. 3 of Text)	
Jul. 14, 1960, as amended	Channel 9 feet deep at low water and 250 feet wide at mile 922 AHP along former city waterfront 1.1 miles, with upper 600 feet forming turning basin 500 feet wide.	Approved Jul. 12, 1962.[1]
	NEW MADRID HARBOR, MO (See Sec. 4 of Text)	
Jul. 14, 1960, as amended	Channel 9 feet deep at low water and 150 feet wide at mile 889 AHP, along city waterfront 9,400 feet with a turning basin 250 feet wide.	Approved Feb. 21, 1968.[1]
	OSCEOLA HARBOR, AR (See Sec. 5 of Text)	
Jul. 14, 1960, as amended	Channel 9 feet deep at low water and 250 feet wide, 6,500 feet upstream along the old bendway channel.	Approved Sep. 30, 1971.[1]
	WHITE RIVER, ARK(below Newport) (See Sec. 6 of Text)	
Jul. 13, 1892	Open channel work, mouth to Batesville.	Annual Report, 1893, page 2112.
Jul. 14, 1960, as amended	Channel enlargement, mile 10 to Augusta.	Approved Mar. 11, 1968.[1]
	WOLF RIVER (Memphis Harbor), TN (See Sec. 7 of Text)	
Aug. 30, 1935	Channel 9 feet deep at low water and 250 feet wide to mile 1.75; 200 feet wide to mile 3.5; thence 125 feet wide to mile 5.5.	H. Docs. 26, 72d Cong., 1st sess., and 45, 74th Cong., 1st sess.
Jul. 3, 1958	Flood control work in lieu of navigation improvements above mile 3.	H. Doc. 76, 85th Cong., 1st sess.
	BRADFORD, TN (See Sec. 9 of Text)	
Sep. 3, 1954, as amended	Channel improvement within the City of Bradford.	Approved July 18, 1983[5]
	DRINKWATER SEWER, MO (See Sec. 10 of Text)	
Jun. 30, 1948, as amended	Pumping station.	Approved Jan. 5, 1977.[2]
	HUNTINGDON, TN (See Sec. 11 of Text)	
Jun. 30, 1948, as amended	Channel improvement within the city of Huntingdon.	Approved Aug. 11, 1976.[2]
	LONG LAKE AREA, HELENA, AR (See Sec. 12 of Text)	
June. 30, 1948, as amended	Approximately 5 miles of channel improvement on Long Lake Bayou.	Approved Dec. 16, 1975.[2]
	NONCONNAH BLVD., NONCONNAH CREEK, TN (See Sec. 13 of Text)	
Jul. 24, 1946, as amended	Stabilization of stream bank caving.	Approved Dec. 24, 1980[4]
	NO. SECOND ST, MEMPHIS, TN (WOLF RIVER BRIDGE). (See Sec. 14 of Text)	
Jul. 24, 1946, as amended	Stabilization-Stream bank caving.	Approved Jul. 23, 1979[4]
	U.S. HWY 51 NONCONNAH CREEK, TN (See Sec. 15 of Text)	
Jul. 24, 1946 as amended	Stabilization of stream bank caving.	Appoved Nov. 10, 1980

TABLE 13-B
(Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	WEST HICKMAN AREA, HICKMAN, KY. (See Sec. 16 of Text)	
Jun. 30, 1948, as amended	Installation of flap gate on existing culvert; 190-cfs pumping station; and minor channel work.	Approved Nov. 9, 1973.[2]

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[1] Authorized under authority of Sec. 107 of the River and Harbor Act, as amended.

[2] Authorized under authority of Sec. 205 of the 1948 Flood Control Act, as amended.

[3] Contains latest published map.

[4] Authorized under authority of Sec. 14 of the 1946 Flood Control Act.

[5] Authorized under authority of Sec. 208 of the 1954 Flood Control Act, as amended.

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TABLE 13-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Forked Deer River, TN, including South Fork[1, 2]	-	1912	$25,000	$ 12,818	-
Obion River, Tenn.[1, 3]	-	1911	28,716	-	-
Removing snags and wrecks from Mississippi River below mouth of Missouri River and from Old and Atchafalaya Rivers[4, 5]	-	1948	-	318,833	[4]
St. Francis and L'Anguille Rivers and Blackfish Bayou, AR[1, 2]	-	1942	92,000	300,449	-

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1. No commerce.
2. Existing project is for maintenance only.
3. Recommended for abandonment in H. Doc. 467, 69th Cong., 1st sess.
4. Completion date not available.
5. No funds available under this project. Work being carried on under "Appropriation, Flood Control, Mississippi River and tributaries."

TABLE 13-D OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Big Creek Canal, Millington, TN	-	1977	$ 70,363	$ -	-
Big Creek and L'Anguille River, White River Basin, AR[1]	6 May 81	1937	-	-	-
Clarendon to Laconia Circle, White River Basin, AR[1]	6 May 81		-	-	-
Cottonwood Slough pumping plant, IL[2]	-	1964	147,000	-	Feb 1964
Dyersburg, TN[2]	-	1962	229,649[3]	-	Jun 1962
Dyersburg, TN (SW)	-	1981	1,820,869	-	Oct 1976
Memphis, Wolf River, and Nonconnah Creek, TN	-	1960	11,141,199	-	May 1959
Mounds and Mound City, Ohio River Basin, IL[4]	-	1955	1,132,704	-	Oct 1959[5]
Nixon Creek, TN[2]	-	1952	62,821	-	Dec 1951
Treasure Island, MO	-	1981	861,528	-	Mar 1978

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1. Inactive, awaiting local cooperation.
2. Authorized by Chief of Engineers under small project authority, Sec. 205, Flood Control Act of 1948, as amended.
3. Includes $21,863 contributed funds.
4. Work being completed under Mississippi River and Tributaries project.
5. Exclusive of Cache River Pumping Station.

MEMPHIS, TN, DISTRICT

TABLE 13-E ACTIVE GENERAL INVESTIGATIONS (96x3121)

Item and CWIS Number	Federal Cost FY 83	Totals by Categories
SURVEYS (Category 100)		
Navigation (110)		
St. Francis River Navigation, AR -10036	$ 1,172	
White River Navigation to Batesville, AR -60740	0	
	1,172	
Flood Control Studies (120)		
Memphis Metropolitan Area, AR, TN, & MS -12135	194	
	194	
Coordination Studies with Other Agencies (180)		
Tech. & Engr. Assist. Shore & Streambank Erosion (188)-51731	0	
	0	
		$ 1,366
COLLECTIONS AND STUDY OF BASIC DATA (Category 200)		
Flood Plain Management Services (250)		
Flood Plain Management Services	158,870	
TOTAL (Category 200)		$158,870
GRAND TOTAL GENERAL INVESTIGATIONS		$160,236

ST. LOUIS, MO, DISTRICT

This district comprises those portions of southwestern Illinois and eastern Missouri embraced in drainage basin of Mississippi River and its western tributaries, exclusive of the Missouri River, from the mouth of the Ohio River to mile 300, and of its eastern tributaries to Hamburg Bay at mile 261 on left bank, exclusive of tributary basin of Illinois Waterway upstream of new La Grange Lock and Dam at mile 80.15 above confluence of the Illinois and Mississippi Rivers. District also includes drainage basin in Missouri tributary to the Little River diversion channel. Report on the Mississippi River between the Missouri River and mile 300 is included in separate report on the Mississippi River between the Missouri River and Minneapolis, MN. Report on the portion of the Illinois River downstream of new La Grange Lock and Dam is included in report of the Chicago District on the Illinois Waterway, Illinois and Indiana.

IMPROVEMENTS

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Navigation

1. ILLINOIS WATERWAY, IL (ST. LOUIS DIST.)

See report on Illinois Waterway, IL and IN, under Chicago District.

2. KASKASKIA RIVER, IL

Location. The river rises in Champaign County, IL, about 5 miles northwest of Urbana, in east-central part of State. It flows southwesterly about 325 miles and empties into Mississippi River about 8 miles above Chester, IL, or about 118 miles above mouth of Ohio River. (See Cincinnati sheet of maps of United States published by Army Map Service, scale 1:500,000.)

Previous project. For details see Annual Report for 1896, page 171.

Existing project. Improvement for navigation provides a channel 9 feet deep and 225 feet wide from mouth to Fayetteville, IL. Improvement consists of enlarging present channel where required, making overbank cutoffs to eliminate sharp bends, and construction of a dam at mile 0.8 with a single lock 84 feet wide and 600 feet long, at an estimated total Federal project cost (1983) of $152,725,000. Non-Federal project cost is $7,665,000, of which $1,500,000 is local contribution.

Local cooperation. State of Illinois passed legislation authorizing Illinois Department of Public Works and Buildings to enter into assurances of local cooperation with the United States. These assurances have been furnished and were accepted Nov. 23, 1965.

Operations and results during fiscal year. Work is complete on the lock and dam, railroad relocations, and the grade control structure. Engineering and design continued on remaining construction items. Project is about 84 percent complete.

Maintenance. Hired labor performed operation and maintenance of the project.

3. MISSISSIPPI RIVER BETWEEN MISSOURI RIVER AND MINNEAPOLIS, MN. (ST. LOUIS DIST.) (INCLUDES L&D 26 REPLACEMENT)

See separate section entitled "Mississippi River between Missouri River and Minneapolis, MN," printed in the Annual Report of the Chief of Engineers.

4. MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS, MO AND IL

Location. Mississippi River rises in Lake Itasca, MN, and from that lake flows southerly about 2,340 miles and empties into the Gulf of Mexico. Portion included in this report embraces the 195-mile section known as middle Mississippi, between tributary Ohio and Missouri Rivers about 974 to 1,169 miles from the gulf. See folder by Corps of Engineers of Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.

Previous projects. For details see page 1879 of Annual Report for 1915, and page 1014 of Annual Report for 1938.

Existing project. The existing project provides for obtaining and maintaining a minimum channel depth of not less than 9 feet, a minimum width of not less than 300 feet at low water, with additional widths in bends from mouth of Ohio River (about 974 miles from gulf) to northern boundary of city of St. Louis, mile 191, thence 200 feet wide, with additional width in bends to mouth of Missouri River, mile 195; to be obtained: (1) by regulating works, for closing secondary channels, contracting river by building new banks where river width is excessive and protecting new and old banks from erosion where necessary to secure permanency at an estimated total Federal cost (1983) of $186,000,000. (2) by dredging to maintain project channels; (3) by construction of works authorized for Chain of Rocks reach in 1945 River and Harbor Act, which approved a comprehensive plan for development of the river at Chain of Rocks to provide for construction of a lateral canal at a cost of $59,720,600; and (4) by construction of a fixed-crest rock-fill dam about 900 feet below Chain of Rocks Bridge, authorized by 1958 River and Harbor Act, at cost of $4,353,000, excluding $7,000 costs to Coast Guard for aids to navigation. Estimated total Federal project cost (1983) is $250,073,600. A small boat harbor opposite Chester, IL, was deauthorized and excluded from foregoing cost estimate. See H. Doc. 669 (76th Cong., 3d sess.) for report of Chief of Engineers dated Feb. 27, 1940, containing a general plan for improvement of Mississippi River between Coon Rapids Dam and mouth of Ohio River for purposes of navigation, power development, flood control, and needs of irrigation.

Local cooperation. None required.

Terminal facilities. Existing facilities are considered adequate for existing commerce.

Operations and results during fiscal year. Regulating Works: Contract was continued on stone dike and revetment construction as was engineering and design and supervision and administration. Construction on existing project began in 1881 and project has been in beneficial use practically from its inception. Projects on Dam 27 and Chain of Rocks are complete. Work on the project is about 65 percent complete. Channel as a whole has been greatly improved by the work completed to date. Dredging is required at low stages to remove temporary shoals and maintain required channel depths. River is generally above 10-foot stage, St. Louis gage, from latter part of February to the latter part of August, during which time project channel depths generally prevail without dredging.

Maintenance. Work consisted of 6,575 feet of dike and 8,856 feet of revetment repair. U.S. plant and hired labor performed channel dredging at 18 locations, removing 4,900,000 cubic yards of material from main channel. Channels dredged had a combined length of 11.4 miles, an average width of 290 feet, and an average gain in depth of 6 feet. Condition and operation studies, recreation planning, engineering and design, and operation and maintenance of Lock and Dam 27 continued.

Flood Control

5. EAST ST. LOUIS AND VICINITY, IL

Location. Project is in St. Clair and Madison Counties, IL, on the left bank of the Mississippi River between river miles 175 and 195 above the Ohio River. Project includes all bottomlands between bluffs on the east and Mississippi River and Chain of Rocks Canal on the west, and extends from Cahokia diversion channel on the north to Prairie du Pont Creek on the south. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

Existing project. The 1936 Flood Control Act authorized raising and enlarging existing levee systems by construction or reconstruction of 19.8 miles of levee, including 3.1 miles of floodwall, together with necessary appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations and reconstruction of existing pumping plants, alterations to railroad bridges and approaches at levee crossings, service roads on levee crown, and seepage control measures. Work under this authorization provides the area protection against a flood of about 200-year frequency. The completed 10 miles of levee along Chain of Rocks Canal and Lock 27 provide flood protection on the landward side integral with and to the same degree as the East St. Louis levee. Final cost of work under this authorization is $22,550,100. The Flood Control Act of 1965 modified existing project to provide for channel improvements, diversion ditches, flood plain detention areas, a reservoir on Little Canteen Creek, and a pumping plant to considerably reduce damages resulting from interior flooding. This act also authorized reconstruction of a channel stabilization dam in Cahokia Creek diversion channel to provide protection to adjacent levees and bridges from scour and eventual loss. Estimated total Federal project cost of work under this authorization is $34,900,000 (1983), $22,020,000 for Cahokia-Harding Ditch Area, and $12,880,000 for Blue Waters Ditch. Non-Federal cost is $20,760,000.

Local cooperation. Local interests have fully complied with the requirements of local cooperation for work under the 1936 authorization. For work authorized by Flood Control Act of 1965 requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Formal assurances were accepted on the Blue Waters Ditch area on Jun. 25, 1981. Formal assurances for the Cahokia-Harding Areas will be requested upon approval of the plan of improvement currently scheduled after FY 88, due to lack of funding for FY 84 through FY 88.

Operations and results during fiscal year. Planning was continued on project modifications authorized by Flood Control Act of 1965 and construction was continued on ditching contracts. Work authorized by Flood Control Act of 1936 is complete.

6. ELDRED AND SPANKEY DRAINAGE, AND LEVEE DISTRICT, IL

Location. The levee district is in Greene County, Il, on the left bank of the Illinois River between miles 23.8 and 32.3 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. Project provides for raising and enlarging 15.9 miles of levees, altering discharge line of pumping station, and construction of two highway closure structures and seepage control measures. Project will provide protection to 10,470 acres of land, 9,735 of which are highly productive agricultural lands, against a flood of 50-year frequency. Estimated total Federal project cost (1983) is $6,000,000. Non-Federal cost is $940,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2nd sess.).

Local cooperation. Requirements of local cooperation are fully described on page 14-4 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

Operations and results during fiscal year. Preconstruction planning was continued under the general investigation appropriation. Construction has not begun.

7. HARTWELL DRAINAGE AND LEVEE DISTRICT, IL

Location. The levee district is in Greene County on the left bank of the Illinois River between miles 38.2 and 43.1 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. Project provides for construction of 12.3 miles of new or enlarged levees, altering discharge line of pumping station and construction of seepage control measures. Project will provide protection to 9,630 acres of land, 8,955 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1983) is $11,600,000. Non-Federal cost is $1,120,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.)

Local cooperation. Requirements of local cooperation are fully described on page 14-5 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

Operations and results during fiscal year. Preconstruction planning was continued under the general investigation appropriation. Construction has not begun.

8. HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL

Location. The levee district is in Greene and Scott Counties, IL, on the left bank of the Illinois River between miles 43.2 and 50.0 above the Mississippi River. (See Qunicy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. Project provides for construction of 14.3 miles of levee, alteration of discharge lines for three existing pumping stations, construction of a railroad closure structure, and seepage control measures. Project will provide protection the the Village of Hillview and to 13,070 acres of agricultural land against a flood of 50-year frequency. Estimated total Federal project cost (1983) is $11,500,000. Non-Federal cost is $1,220,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.)

Local cooperation. Requirements of local cooperation are fully described on page 14-6 of Fiscal Year 1980 Annual Report Local interests have indicated a willingness to meet the terms of local cooperation.

Operations and results during fiscal year. Preconstruction planning was continued under the general investigation appropriation. Construction has not begun.

9. KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL

Location. In Randolph County, IL, on the right bank of the Mississippi River between miles 111 and 116 above the mouth of the Ohio River. (See Paducah, KY, IL, MO, IN, map published by Army Map Service, scale 1:250,000.)

Previous project. For details, see page 1375 of Annual Report for 1950.

Existing project. Project area contains about 9,460 acres only partially protected against flood stage of 38.5 feet on the Chester, IL, gage. Flooding occurs about once in every 7.3 years with an average duration of 26 days, causing substantial damage. The 1962 Flood Control Act (H. Doc. 519, 87th Cong., 2d sess.) provides for enlarging and raising the existing levee about 8 feet to provide protection against a flood having a frequency of once in 50 years. Estimated total Federal project cost (1983) is $15,700,000. Non-Federal cost is $2,080,000.

Local cooperation. Requirements of local cooperation are fully described on page 14-6 of Fiscal Year 1980 Annual Report. Formal assurances from the Kaskaskia Island Drainage and Levee District were accepted on behalf of the United States on Jan. 23, 1980.

Operations and results during fiscal year. Preconstruction planning is complete. Construction was completed on the gravity drains. Plans and specifications for raising and enlarging the levee are complete and construction will be initiated in the near future.

10. MERAMEC RIVER BASIN, MO

Location. The basin lies within the State of Missouri and comprises 3,980 square miles. The river is a west bank tributary of the Mississippi River at mile 161 above mouth of Ohio River. Major streams in the basin include the Meramec, Big, and Bourbeuse Rivers. The basin extends about 100 miles southwesterly from St. Louis into the Ozark Highlands. (See St. Louis, MO, and Rolla sheets of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. The project provides for the construction of Meramec Park and Union Lakes, authorized by the 1938 Flood Control Act; and Pine Ford, Irondale, and I-38 Lake projects, and 19 angler-use sites, authorized by the 1966 Flood Control Act. Under the plan, Irondale and I-38 Lakes will reduce flood damages in the upper Big and Bourbeuse Rivers. Meramec Park, Union, and Pine Ford Lakes will substantially reduce flooding in the lower basin area and will lower flood crests on the Mississippi River. Project will also provide water supply, water quality control, recreation, and fish and wildlife conservation. (See Table 14-D for additional data on this comprehensive project.)

10A. MERAMEC PARK LAKE, MO

Location. Dam will be at mile 108.7 on Meramec River in Franklin County near Sullivan, MO. Reservoir will be mainly in Crawford, Franklin, and Washington counties, MO. (See St. Louis, MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. Project as authorized by 1938 Flood Control Act provides for construction of an earth dam about 167 feet high with a crest length of 3,000 feet. Reservoir will provide 1 million acre-feet of storage and provide flood protection for 11,862 acres of flood plain in the Meramec River valley above the mouth of Bourbeuse River, and partial protection for 20,209 acres of land below the Bourbeuse. Project will also provide water supply, water quality control, storage, and recreation, and fish and wildlife benefits. Estimated total project cost (1981) is $220,000,000, including $22,506,000 local reimbursement for water supply.

Local cooperation. Local interest must contribute toward cost of project for storage allocated to water supply in accordance with the Water Supply Act of 1958. State of Missouri, acting through its State Water Resources Board and under authority of the General Assembly of State of Missouri, executed assurances for water supply on Aug 23, 1967. The assurances were reviewed by the Office of the Attorney General, State of Missouri, and it is his opinion that the State of Missouri has the legal authority and financial capability to execute said assurances. These assurances have been approved by the Chief of Engineers. A water-supply contract will be entered into with the sponsor before any use of the water-supply storage provided under this contract.

Operations and results during fiscal year. Project was deauthorized by Public Law 97-128. Land is being disposed of in accordance with deauthorizing act.

Maintenance. Hired labor forces performed operations and maintenance of existing facilities.

10B. PINE FORD LAKE, MO

Location. Dam is on Big River at mile 43.8, about 45 miles southwest of St. Louis. The Big River is a tributary of the Meramec. Lake will extend about 34 miles up Big River. (See St. Louis, MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing projec Project provides for construction of a compacted earth-fill dam with a concrete chute spillway. Dam will be 141 feet high and 2,070 feet long. Construction of new roads, improvements of existing roads, alterations to pipeline, power and telephone lines, and construction of recreational facilities are included. Maximum storage capacity will be 285,000 acre-feet. Estimated total project cost (1981) is $133,000,000, of which $7,394,800 and $20,801,200 are local reimbursements for water supply and recreation and fish and wildlife respectively.

Local cooperation. Local interests must contribute toward cost of project for storage allocation to water supply in accordance with the Water Supply Act of 1958. The State of Missouri demonstrated sufficient interest and approval of the basin plan to warrant the assumption at this time that necessary local cooperation will be forthcoming.

Operations and results during fiscal year. Preconstruction planning continued. The project is being reformulated. Construction has not begun.

11. MCGEE CREEK DRAINAGE AND LEVEE DISTRICT, IL

Location. The levee district is in Brown and Pike Counties, IL, on the right bank of Illinois River between miles 67.2 and 75.1 above the Mississippi River. (See Kansas City sheet of maps of United States, published by Army Map Service, scale 1:500,000.)

Existing project. Project provides for reconstruction of 14.7 miles of levee, construction of a new pumping plant, closure structure, and seepage control measures. Project will provide protection to about 12,080 acres of agricultural land against a flood of about 50-year frequency. Estimated total Federal project cost (1983) is $25,500,000. Non-Federal cost is $930,000. Project was authorized by 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

Local cooperation. Requirements of local cooperation are fully described on page 14-9 of Fiscal Year 1980 Annual Report. Local interests have executed assurances in compliance with Public Law 91-611 and Public Law 91-646.

Operations and results during fiscal year. Preconstruction planning is complete. The pumping station, the riverfront levee and the lower part of the lower flank levee are under construction. Construction is complete on the upper flank levee, and will be initiated in the near future on remainder of the lower levee.

12. MEREDOSIA, IL, AND MEREDOSIA, WILLOW CREEK, AND COON RUN DRAINAGE AND LEVEE DISTRICTS, IL

Location. The levee district is in Morgan and Scott Counties, IL, on the left bank of the Illinois River between miles 67.0 and 72.2 above the Mississippi River. (See Quincy, IL-MO sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. Project provides for construction of 11.0 miles of new or enlarged levee, a pumping plant, closure structure, and seepage control measures. Project will provide protection to 8,215 acres of land, 7,640 of which are highly productive agricultural lands, and 575 acres of noncrop and farmsteads against a flood of 50-year frequency. Estimated total Federal project cost (1983) is $11,200,000. Non-Federal cost is $1,030,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

Local cooperation. Requirements of local cooperation are fully described on page 14-9 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

Operations and results during fiscal year. Preconstruction planning was continued under the general investigation appropriation. Construction has not begun.

13. MEREDOSIA LAKE AND WILLOW CREEK DRAINAGE AND LEVEE DISTRICT, IL

Location. The project is in Cass and Morgan Counties, IL, on the left bank of the Illinois River between miles 72.2 and 79.0 above the Mississippi River. (See Qunicy, IL-MO sheet of maps of the United States, published by Army Maps Service, scale 1:250,000.)

Existing project. Project provides for construction of 15.9 miles of new or enlarged levee, closure structure, drainage facilities, and seepage control measures. Project will provide protection to 7,510 acres of land, 6,980 of which are highly productive agricultural lands, and 530 acres of noncrop and farmsteads against a flood of 50-year frequency. Estimated total Federal project cost (1983) is $9,300,000. Non-Federal cost is $560,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

Local cooperation. Requirements of local cooperation are fully described on page 14-10 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

Operations and results during fiscal year. Preconstruction planning was continued under the general investigation appropriation. Construction has not begun.

14. MISSISSIPPI RIVER AGRICULTURAL AREA 8, MO

Location. Area 8 is in Lincoln and Pike Counties, MO, on west bank of Mississippi River between river miles 249 and 261 above the Ohio River. Small community of Elsberry lies within the area. (See Quincy sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. The 1966 Flood Control Act (H. Doc. 510, 89th Cong., 2d sess.) authorized the raising and enlarging of existing levees to provide 24.4 miles of riverfront, flank, and back levees and construction of appurtenant works consisting of drainage structure, highway and railroad closure structures, and alterations to existing pumping plants. The project has been reduced in scope to consist of replacing one existing drainage structure, replacing an obsolete stream driven pump unit with a new one of 150 cubic feet per second capacity, and rehabilitation of the pump station. Project will afford protection to the area against a flood of 50-year frequency. Estimated total Federal project cost (1980) is $2,400,000. Non-Federal cost is $20,000.

Local cooperation. Fully complied with. See page 14-10 of FY 1980 Annual Report.

Operations and results during fiscal year. Local interests have been reimbursed under Sec. 215, Public Law 90-483, for cost they incurred for pumping plant improvement. Construction of gravity drain and pumping station rehabilitation is complete. Operation and maintenance manual is being prepared.

15. NUTWOOD DRAINAGE AND LEVEE DISTRICT, IL

Location. The levee district is in Greene and Jersey Counties, IL, on the left bank of the Illinois River between miles 15.2 and 23.7 above the Mississippi River. (See Quincy, IL-MO, sheet of maps of the United States, published by Army Map Service, scale 1:250,000.)

Existing project. Project provides for raising and enlarging 11.4 miles of levee, construction of 1.0 mile of new levee, altering discharge line of pumping station, and construction of seepage control measures. Project will provide protection to 10,360 acres of land, 9,635 of which are highly productive agricultural lands against a flood of 50-year frequency. Estimated total Federal project cost (1982) is $9,000,000. Non-Federal cost is $840,000. Project was authorized by the 1962 Flood Control Act (H. Doc. 472, 87th Cong., 2d sess.).

Local cooperation. Requirements of local cooperation are fully described on page 14-11 of Fiscal Year 1980 Annual Report. Local interests have indicated a willingness to meet the terms of local cooperation.

Operations and results during fiscal year. Preconstruction planning was continued under the general investigation appropriation. Construction has not begun.

16. PERRY COUNTY DRAINAGE AND LEVEE DISTRICTS NOS. 1, 2, & 3, MO

Location. Districts are in Perry County, MO, and Randolph County, IL, on the right bank of the Mississippi River between river miles 95 and 111 above the mouth of the Ohio River. (See Paducah, KY, IL, MO, IN, map published by Army Map Service, scale 1:250,000.)

Previous project. For details, see page 475 of Annual Report for 1968.

Existing project. Project area contains about 26,881 acres protected from floods of the Mississippi River by levees. However, when Mississippi River stage exceeds 13 feet on the Chester, IL, gage, substantial damage results from impoundment of precipitation or seepage, or a combination thereof. Authorized project provides for construction of four pumping stations to reduce interior flooding. Estimated total Federal project cost (1982) is $8,812,000.

Local cooperation. Requirements of local cooperation are fully described on page 14-11 of Fiscal Year 1980 Annual Report. Assurances were furnished by local interests (presently, Boil Brule Levee District, MO). on Nov. 16, 1978, and were accepted Nov. 27, 1978, by the District Engineer under delegated authority.

Operations and results during fiscal year. Construction was continued on Missouri Chute and Bois Brule pumping stations and is complete on the Cinque Hommes and Jones Cutoff stations.

17. REND LAKE, BIG MUDDY RIVER, IL

Location. The lake is in Franklin and Jefferson Counties in southern Illinois. The dam is on Big Muddy River, 103.7 miles upstream from its confluence with the Mississippi River, and about 3 miles northwest of Benton, IL. (See Belleville sheet of maps of United States, published by Army Map Service, scale 1:250,000, and Geological Survey quadrangle maps, 1:62,500.)

Existing project. The project provides for construction of an earth dam, ungated concrete spillway, relocation of roads and utilities, recreational facilities, access roads, and service facilities. In addition, two subimpoundment dams were constructed on upper arms of reservoir to enhance fish and wildlife value of project. Reservoir has an area of 24,800 acres, and a storage capacity of 294,000 acre-feet. Project provides flood control, water supply, low-flow regulations, conservation of fish and wildlife, recreation, and area development. Estimated total Federal project cost (1983) is $43,100,900, of which $12,197,700 is for lands and damages. Non-Federal local contribution for water supply is $9,941,300. Federal cost for code 711 recreation facilities is $1,060,900.

Local cooperation. Requirements of local cooperation are fully described on page 14-12 of Fiscal Year 1980 Annual Report. Assurance of local cooperation and water supply contract have been executed and approved by the Secretary of the Army.

Operations and results during fiscal year. Real estate activities in connection with project completion were performed. Lands acquired to date are 39,819 acres in fee and 906 acres in easements. Project is essentially complete.

Maintenance. Hired labor forces performed operation and maintenance of Rend Lake Reservoir.

18. WOOD RIVER DRAINAGE AND LEVEE DISTRICT, IL

Location. In Madison County, IL, on left bank of Mississippi River between river miles 195 and 203 above Ohio River. District includes bottom lands between river and bluffs and extends from Cahokia diversion channel on the south to opposite lock and dam No. 26 at Alton, IL, on the north. Small industrial cities of Hartford, Wood River, Roxana, and East Alton and part of Alton riverfront, lie within the district. (See Corps of Engineers Navigation Charts, Middle and Upper Mississippi River, Cairo, IL, to Minneapolis, MN.)

Existing project. The 1938 Flood Control Act authorized raising, enlarging, and extending existing levee system to provide 20.8 miles of levees and construction of appurtenant works consisting of gravity drainage structures, highway and railroad closure structures, alterations to existing or construction of new pumping plants; surfacing service road on levee crown, making necessary alterations to railroad tracks and bridges at levee crossings, seepage corrective measures and construction of a low-water dam at mouth of Wood River. Project will afford protection to this district against a flood of about 200-year frequency. Estimated total construction cost (1982) is $18,600,000 (excluding $23,000 contributed funds). Flood Control Act of 1965 modified 1938 Flood Control Act to provide for construction of a pumping station with collector ditches and necessary appurtenant facilities for removal of water impounded by existing levee. This portion of the project has been declared inactive.

Local cooperation. Fully complied with for work authorized by 1938 Flood Control Act.

Operations and results during fiscal year. Work authorized by the 1938 Flood Control Act is complete except for 1200 feet of levee and two closure structures. Design of these items is progressing. Construction has not begun.

19. INSPECTION OF COMPLETED FLOOD PROJECTS CONTROL

Inspection of completed work was accomplished at a cost of $382,962 for the fiscal year. Total cost as of end of fiscal period is $4,555,088.

20. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Sec. 107, Public Law 86-645, as amended (preauthorization).

Preauthorization studies cost for fiscal year were $85,307 for Southeast Missouri Port study.

21. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Sec. 205, Public Law 858, 80th Cong., as amended (preauthorization).

Preauthorization study costs for fiscal year were $2,013 for East Cape Girardeau Main Ditch, IL; $7,500 for Kaskaskia River, Carlyle, IL; and $5,943 for St. Peters, MO.

Emergency flood control activities—repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation).

Federal costs for the fiscal year were $102,258 for disaster preparedness, $2,768,435 for emergency operations, and $278,265 for rehabilitation.

Multiple-Purpose Project Including Power

22. CLARENCE CANNON DAM AND RESERVOIR, SALT RIVER, MO

Location. Salt River rises in Schuyler County, about 12 miles south of Missouri-Iowa State line. It flows southeasterly about 192 miles and empties into Mississippi River about 2 miles above Louisiana, MO, or about 284 miles above mouth of Ohio River. (See Kansas City and Quincy sheets of maps of United States published by Army Map Service, scale 1:500,000, and Geological Survey quadrangle maps, 1:250,000.)

Previous project. For details, see page 645 of Annual Report for 1968.

Existing project. Project provides for construction of a multiple-purpose reservoir, including power, flood control, water supply, navigation storage, pollution abatement, fish and wildlife conservation, and recreation. Dam consists of a compacted earth embankment with a concrete spillway controlled by tainter gates. Dam and spillway are about 1,700 feet long. Spillway structure consists of an ogee overflow section surmounted by four 50- by 30-foot tainter gates. Reservoir will have a storage capacity of 1,428,000 acre-feet for use of flood control, future domestic and industrial water supply, sediment storage, and power generation. Project document plan provides for installation of two 27,000 kilowatt units, one conventional and one reversible, to be used for pumped storage operations. Total Federal project cost estimate (1983) is $326,000,000 of which $21,320,000 is for lands and damages, and $14,200,000 is for water supply.

Local cooperation. Requirements of local cooperation are fully described on page 14-13 of Fiscal Year 1980 Annual Report. Assurances have been received from the State of Missouri and approved by the Chief of Engineers.

Operations and results during fiscal year. Major items of work completed during the fiscal year consisted of sluice closure operations in August 1983 and topping out the main embankment in September 1983. The county highway relocations were essentially completed. Remaining work consists of completing the state highway relocation across the main dam, installing the microwave system to the Harry S. Truman project, final testing of the two hydropower turbines and generators, completion of electrical service to existing recreation areas, and purchase of remaining permanent operating equipment. Lands acquired to date are 55,277 acres in fee and 10,049 acres in easements. Project is 95 percent complete.

General Investigations

22. ACTIVE INVESTIGATIONS

See Table 14-F which covers: Surveys, Collection and study of basic data, and Research and development activities.

ST. LOUIS, MO, DISTRICT

TABLE 14-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
2.	Kaskaskia River IL (Regular Funds)	New Work					
		Approp.	$5,000,000	$3,635,000	$1,800,000	$400,000	$122,591,000[1]
		Cost	5,009,434	3,478,872	1,883,090	388,140	122,480,100[1]
		Maint.					
		Approp.	779,400	929,000	1,200,000	1,131,856	8,402,256
		Cost	710,908	1,025,322	973,968	1,036,248	8,050,988
	(Contrib. Funds)	New Work					
		Contrib.	0	0	0	0	1,244,078
		Cost	0	0	42,000	0	1,118,160
4.	Mississippi River Between Ohio and Missouri Rivers (Includes Chain of Rocks)	New Work					
		Approp.	3,450,000	3,075,000	2,000,000	2,437,000	164,156,000[2]
		Cost	3,838,008	3,051,785	1,759,811	1,574,639	162,839,543[2]
		Maint.					
		Approp.	9,017,900	9,121,000	9,269,000	8,010,656	185,657,133[3]
		Cost	9,675,719	8,919,608	8,443,093	10,191,370	185,314,623[3]
5.	East St. Louis and Vicinity, IL	New Work					
		Approp.	580,000	725,000	275,000	950,000	31,572,388[4]
		Cost	699,638	432,485	515,776	1,011,724	31,483,725[5]
6.	Eldred & Spankey Drainage and Levee District, IL	New Work					
		Approp.	105,000	400,000	0	0	875,000
		Cost	100,453	369,419	64,620	0	875,000
7.	Hartwell Drainage & Levee District, IL	New Work					
		Approp.	230,000	250,000	0	0	622,000
		Cost	156,347	190,624	137,251	10,021	622,000
8.	Hillview Drainage & Levee District IL	New Work					
		Approp.	190,000	183,000	0	0	433,000
		Cost	193,215	147,733	58,771	572	433,000
9.	Kaskaskia Island Drainage & Levee District, IL	New Work					
		Approp.	400,000	1,363,000	725,000	500,000	3,943,000
		Cost	366,150	1,160,083	797,320	375,659	3,562,282
10A.	Meramec Park Lake, MO	New Work					
		Approp.	0	0	0	0	30,568,000[6]
		Cost	63,716	63,796	28,285	-42,325	30,462,664[6]
		Maint.					
		Approp.	185,000	287,000	567,000	595,000	2,384,600
		Cost	178,516	271,948	415,026	670,277	2,272,156
10B.	Pine Ford Lake, MO	New Work					
		Approp.	550,000	545,000	15,000	0	3,680,001
		Cost	447,699	521,842	120,033	-5,815	3,642,573
11.	McGee Creek Drainage & Levee District, IL	New Work					
		Approp.	975,000	5,600,000	2,285,000	8,012,900	17,720,300
		Cost	746,149	5,110,855	1,134,848	8,793,102	16,628,560
12.	Meredosia, IL, and Meredosia, Willow Creek and Coon Run Drainage & Levee Districts, IL	New Work					
		Approp.	150,000	180,000	0	0	370,000
		Cost	124,026	151,945	70,166	1,408	370,000
13.	Meredosia Lake and Willow Creek Drainage & Levee District, IL	New Work					
		Approp.	170,000	140,000	-15,000	0	345,000
		Cost	122,351	67,865	121,430	845	345,000
14.	Mississippi River Agricultural Area No. 8, IL	New Work					
		Approp.	106,000	760,000	172,000	0	2,137,000
		Cost	95,295	763,571	173,441	6,190	2,127,133

TABLE 14-A (Continued) COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Funds to Sep. 30, 1983
15.	Nutwood Drainage & Levee District, IL	New Work					
		Approp.	180,000	295,000	0	0	670,000
		Cost	159,354	267,610	50,079	8,993	669,880
16.	Perry County Drainage & Levee District Nos. 1, 2, & 3, MO	New Work					
		Approp.	1,347,000	1,944,000	1,558,000	1,503,000	8,223,000[7]
		Cost	1,551,162	1,845,151	943,491	1,807,562	7,654,495[7]
17.	Rend Lake, Big Muddy, IL (Regular Funds)	New Work					
		Approp.	$ 0	$ 0	$ 0	0	43,700,900[8]
		Cost	-18,714	2,104	19,141	81,753	43,593,766[8]
		Maint.					
		Approp.	1,861,000	1,500,000	2,203,000	2,537,900	15,458,800
		Cost	1,904,092	1,656,264	2,107,010	2,533,327	15,235,847
	Code 711 Funds	New Work					
		Approp.	318,000	0	0	0	1,060,900
		Cost	412,636	16,375	0	0	1,060,900
	(Contrib. Funds)	New Work					
		Contrib.	0	0	0	0	9,941,278[9]
		Cost	2	0	0	0	9,941,278[9]
		Maint.					
		Contrib.	400,000	400,000	0	0	2,581,955
		Cost	385,879	416,656	140	0	2,581,955
18.	Wood River Drainage & Levee District, IL	New Work					
		Approp.	0	225,000	285,000	450,000	15,589,821[10]
		Cost	0	93,322	354,171	386,143	15,463,458[10]
22.	Clarence Cannon Dam and Reservoir, Salt River, MO	New Work	23,123,000	20,950,000	23,500,000	33,849,700	297,336,728[11]
		Approp.	23,758,152	19,196,644	24,029,076	34,463,424	295,996,788[11]
		Cost					
		Maint.					
		Approp.	1,228,500	917,000	1,426,000	1,891,100	6,816,560
		Cost	1,032,809	1,080,977	1,285,921	1,937,491	6,636,910

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1. Excludes $10,461 expended on previous project.
2. Excludes previous project cost of $1,416,620.
3. In addition $3,109 was expended for rehabilitation.
4. Includes $8,072,326 for work authorized by Flood Control Act of 1965.
5. Includes $7,921,939 for work authorized by Flood Control Act of 1965.
6. Includes $200,000 for definite project under 1938 Flood Control Act.
7. Excludes $6,800,700 for previous project.
8. Excludes $550,000 Area Development Administration Funds allotted to the State of Illinois for increased construction costs of Interstate Highway 57 to meet project requirements, and excludes $449,093 Area Redevelopment Administration Funds allotted to the Corps.
9. Includes $6,103,711 credit to State of Illinois for work in kind.
10. Funds are for work authorized by Flood Control Act of 1938.
11. Includes $216,628 for definite project study under 1938 Flood Control Act.

TABLE 14-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	KASKASKIA RIVER, IL (See Section 2 of Text)	
Oct. 23, 1962	Construct canal, lock, and dam to provide a 9-foot navigation channel from mouth to Fayetteville, IL.	S. Doc. 44, 87th Cong., 1st sess.
	MISSISSIPPI RIVER BETWEEN OHIO AND MISSOURI RIVERS (See Section 4 of Text)	
	Project for regulating works in 1881. (To obtain a minimum depth of 8 feet.)	Annual Report, 1881, p. 1536.
Jun. 3, 1896	Dredging introduced as part of the project.	
Jun. 13, 1902		
Mar. 2, 1907[1]		
Mar. 3, 1905[1]	These acts practically abrogated that part of project for middle Mississippi which proposed regulating works.	
Jun. 25, 1910	Regulating works restored to project and appropriations begun with a view to completion of improvement between Ohio and Missouri Rivers within 12 years at an estimated cost of $21 million, exclusive of amounts previously expended.	
Jan. 21, 1927	For 9 feet deep and 300 feet wide from Ohio River to northern Rivers and Harbors boundary of city of St. Louis.	Committee Doc. 9, 69th Cong., 2d sess.
Jul. 3, 1930	Project between northern boundary of St. Louis and Grafton (mouth of Illinois River) modified to provide a channel 9 feet deep and generally 200 feet wide with additional width around bends.	Rivers and Harbors Committee Doc. 12, 70th Cong., 1st sess.
Mar. 2, 1945	Modified to provide construction of a lateral canal with lock at Chain of Rocks.	H. Doc. 231, 76th Cong., 1st sess.
Sep. 3, 1954[3]	Modified to provide construction of a small-boat harbor opposite Chester, IL.	H. Doc. 230, 83d Cong., 1st sess.
Jul. 3, 1958[4]	Modified to provide construction of a fixed crest rockfill dam 900 feet below Chain of Rocks Bridge.	
	EAST ST. LOUIS AND VICINITY, IL (See Section 5 of Text)	
Jun. 22, 1936	Raise and enlarge existing levee.	Special report on record in OCE.
Oct. 27, 1965	Construct pumping plant and other modifications to reduce interior flooding.	H. Doc. 329, 88th Cong., 2d sess.
Oct. 22, 1976	Construct Blue Waters Ditch as independent section.	Public Law 94-587, 94th Cong.
	ELDRED AND SPANKEY DRAINAGE AND LEVEE DISTRICT, IL (See Section 6 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
	HARTWELL DRAINAGE AND LEVEE DISTRICT, IL (See Section 7 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
	HILLVIEW DRAINAGE AND LEVEE DISTRICT, IL (See Section 8 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
	KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL (See Section 9 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee.	H. Doc. 519, 87th Cong., 2d sess.
	MERAMEC RIVER BASIN, MO (See Section 10 of Text)	
Jun. 28, 1938	Construct reservoirs and local protection project.	Flood Control Committee Doc. 1, 75th Cong., 1st sess.
Nov. 7, 1966	Construct Pine Ford, Irondale, and I-38 dams and 19 Angler-use sites.	H. Doc. 525, 89th Cong., 2d sess.

TABLE 14-B (Continued)

AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	MCGEE CREEK DRAINAGE AND LEVEE DISTRICT, IL (See Section 11 of Text)	
Oct. 23, 1962	Reconstruct existing levee and construct pumping plant to reduce flooding.	H. Doc. 472, 87th Cong., 2d sess.
	MEREDOSIA, IL, AND MEREDOSIA, WILLOW CREEK AND COON RUN DRAINAGE AND LEVEE DISTRICTS, IL (See Section 12 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
	MEREDOSIA LAKE AND WILLOW CREEK DRAINAGE AND LEVEE DISTRICT, IL (See Section 13 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
	MISSISSIPPI RIVER AGRICULTURAL AREA 8, MO (See Section 14 of Text)	
Nov. 7, 1966	Raise and enlarge existing levee and alter pumping plant to reduce flooding.	
	NUTWOOD DRAINAGE AND LEVEE DISTRICT, IL (See Section 15 of Text)	
Oct. 23, 1962	Raise and enlarge existing levee and other modifications.	H. Doc. 472, 87th Cong., 2d sess.
	PERRY COUNTY DRAINAGE AND LEVEE DISTRICTS NOS. 1, 2, & 3, MO (See Section 16 of Text)	
Adopted by Senate and House Committee resolutions, Oct. 12, 1972[5]	Construct pumping plants and other modifications to reduce interior flooding.	H. Doc. 360, 92nd Cong., 2d sess.
	REND LAKE, BIG MUDDY RIVER, IL (See Section 17 of Text)	
Oct. 23, 1962	Construct dam at Benton, Ill., and subimpoundment dams on upper arms of reservoir.	H. Doc. 541, 87th Cong., 2d sess.
	WOOD RIVER DRAINAGE AND LEVEE DISTRICT, IL (See Section 18 of Text)	
Jun. 28, 1938	Construct reservoirs and local protection projects.	Flood Control Committee Doc. 1, 75th Cong., 1st sess.
	CLARENCE CANNON DAM AND RESERVOIR, SALT RIVER, MO (See Section 22 of Text)	
Oct. 23, 1962	Modified act of 28 Jun. 1938 by deleting the reservoir therefrom and reauthorizing it as a separate multiple-purpose project.	H. Doc. 507, 87th Cong., 2d sess.
Oct. 27, 1965	Changes name of project from Joanna Dam to present designation.	Public Law 89-298, 89th Cong.

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1. Also joint resolution, Jun. 29, 1906.
2. Contains latest published map.
3. Inactive.
4. All work completed.
5. Authorized under provision of Sec. 201 of the Flood Control Act of 1965.

TABLE 14-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983 Construction	Cost to Sep. 1983 Operation and Maintenance	Mo. and Yr. Completed
Cuivre River, MO[1]	-	1883	$ 12,000	$ -	-
Grafton Small Boat Harbor, IL	Nov. 1977	1962[2]	-	-	-
Mississippi River at Alton, IL Small Boat Harbor	Nov. 1977	1958[2]	-	-	-
Moccasin Springs, MO	-	1969	76,436[3]	-	-
Small Boat Harbor opposite Chester, IL	Nov. 1977	1954[2]	-	-	-
Small Boat Harbor opposite Hamburg, IL	Nov. 1977	1950[2]	-	-	-
Wabash Railroad Bridges, Illinois River, Meredosia, and Valley City, IL	-	1961	2,653,194	1961	-

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1. Inactive. River declared nonnavigable by act of Mar. 23, 1900.
2. Year authorized.
3. Excludes $56,605 contributed funds.

TABLE 14-D LAKES, LEVEES, AND RECREATIONAL FACILITIES

See Section in Text	Project	Name	Estimated Federal Cost	Estimated Required Non-Federal Cost	Total Estimated Cost (Date to Revision)
10.	Meramec River Basin, MO	Lakes:			
		Meramec Park[1]	197,494,000	22,506,000	220,000,000 (1981)
		Union[1]	101,305,000	11,695,000	113,000,000 (1982)
		Pine Ford[1]	111,896,000	30,104,000	142,000,000 (1982)
		Irondale[2]		8,744,370	66,700,000 (1982)
		I-38[2]	27,294,000	2,306,000	29,600,000 (1982)
		Recreation facilities:			
		Angler-use sites[2]	2,140,000	2,140,000	4,280,000 (1982)

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1. Separate reports are included herein.
2. See 1967 Annual Report for details.

TABLE 14-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Angler-use sites, Meramec Basin, MO	-	1967	$ -	$ -	-
Big Swan Drainage and Levee District, Illinois River, IL[1]	-	-	-	-	-
Cache River Diversion, IL	-	1953	2,837,114	-	1953
Cape Girardeau, MO, reaches Nos. 1, 3, and 4	Oct. 1978	1959	22,000	-	-
Cape Girardeau, MO, No. 2	-	1965	5,157,805	-	1964
Carlyle Lake, IL	-	1981	42,819,400	28,625,807	Oct. 1976
Chouteau, Nameoki, and Venice Drainage and Levee District, IL	-	1955	185,700	-	1955
Clear Creek Drainage and Levee District, IL[2]	-	1964	4,984,500	-	1963
Columbia Drainage and Levee District No. 3, IL	-	1981	2,818,000	-	Aug. 1981
Degognia and Fountain Bluff Levee and Drainage District, IL	-	1959	5,889,500	-	1959
Dively Drainage & Levee District, IL	-	1976	1,720,000	-	1976
East Cape Girardeau and Clear Creek Drainage District, IL	-	1963	1,920,600	-	1963
Eldrid, IL	Nov. 1979	1962[3]	-	-	-
Emergency bank protection for certain highway and railroad facilities at Price Landing, MO (see Flood Control Act of 1944)[4]	-	1950	55,415	-	Oct. 1949
Emergency repairs to levees on Mississippi, Illinois, and Kaskaskia Rivers and flood fighting and rescue work (Sec. 5, Flood Control Act of 1941, as amended)[4]	-	1953	-	1,033,279	1951
Emergency protection for certain highway and railroad facilities at Chester, IL, bridge (Sec. 12, Flood Control Act of 1944)	-	1952	50,000	-	Jan. 1952
Emergency protection for Illinois approach, Chain of Rocks Bridge (Sec. 12, Flood Control Act of 1944)	-	1946	25,000	-	Aug. 1945
Fort Chartres and Ivy Landing Drainage District No. 5, IL	-	1970	1,154,800	-	1958
Fort Chartres and Ivy Landing Drainage District No. 5 and Stringtown Drainage and Levee District No. 4, IL	-	1971	-	-	-
Grand Tower Drainage and Levee District, IL	-	1959	4,677,900	-	1959
Harrisonville Levee and Drainage District IL	-	1981	5,829,000	-	Mar. 1981
Indian Creek Area, Illinois River, IL[1]	-	-	-	-	-
Kaskaskia Island Drainage and Levee District, IL	-	1959	297,460	-	1949
Keach Drainage and Levee District, IL[1]	-	-	-	-	-
Lake Shelbyville, IL	-	1981	44,000,000	26,377,956	Sep. 1978
Levee Districts between Carlyle and New Athens, IL, Nos. 2, 5, 6, and 7	Nov. 1979	1979	-	-	-
Levee Districts between Carlyle and New Athens, IL, Nos. 3, 4, 8, 10, and 13	Nov. 1979	1979	-	-	-
Levee Districts between Cowden and Vandalia, IL	Oct. 1978	1978	496,000	-	-
Meredosia Lake and Willow Creek Drainage and Levee District, IL	-	1944	249,738	-	1944
Miller Pond Drainage District, IL	-	1955	164,183	-	1955

TABLE 14-E (Continued)

OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Mo. and Yr. Deauthorized	For Last Full Report See Annual Report For:	Cost to Sep. 1983		Mo. and Yr. Completed
			Construction	Operation and Maintenance	
Mississippi River at St. Louis, MO	-	1980	79,265,166	-	Jan. 1980
Mississippi River Agricultural Area No. 10, MO	Nov. 1979	1967	-	-	-
Mississippi River Agricultural Area No. 12, MO	-	1967	-	-	-
Mississippi River, Alton to Gale, IL, underseepage measures	-	-	85,422	-	Oct. 1962
North Alexander Drainage and Levee District, IL	-	1957	939,569	-	1957
Prairie du Pont Levee and Sanitary District, IL[5]	-	1970	6,005,127	-	1970
Prairie du Rocher and vicinity, IL	-	1959	3,882,600	-	1959
Preston Drainage and Levee District, IL	-	1959	1,866,910	-	1959
Richland Creek, IL	-	1969	401,000	-	-
Riverland Levee District, MO	Aug. 1977	1936[3]	-	-	-
Scott County Drainage and Levee District, Illinois River, IL[1]	-	-	-	-	-
Ste. Genevieve County Drainage and Levee District No. 1, MO	Nov. 1977	1936[3]	-	-	-
St. Louis County Drainage and Levee District No. 1, MO	Nov. 1977	1936[3]	-	-	-
Stringtion, Ft. Chartres and Ivy Landing, IL	-	1957	2,123,700	-	Aug. 1956
Union Lake, MO[6]	-	1979	4,917,359	-	-
Urban areas at Alton, IL	-	1960	192,000	-	-
Village of New Athens, IL	-	1981	1,983,000	-	Sep. 1981
Valley City Drainage & Levee District, IL[7]	-	1967	91,952	-	1967
Wiedmer Chemical Drainage and Levee District, MO	Nov. 1977	1936[3]	-	-	-

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[1] Projects authorized or modified by Flood Control Act of Oct. 23, 1962 (see H. Doc. 472, 87th Cong., 2d sess., for details).

[2] Completed except for seepage control measures, which are inactive.

[3] Year authorized.

[4] Work complete, now performed under Public Law 99.

[5] Includes $5,235,927 for previous project.

[6] Includes $183,638 for definite project study under 1938 Flood Control Act. Includes Highway 185 funds.

[7] Authorized by Chief of Engineers (Sec. 205, 1948 Flood Control Act, as amended).

TABLE 14-F ACTIVE GENERAL INVESTIGATIONS (96x3121)

Item and CWIS Number	Federal Cost FY 83	Totals by Categories
SURVEYS (Category 100)		
Navigation (110)		
St. Louis Harbor, MO & IL -58330	$ 51,666	
Miss. R. Mooring Facilities -81181	13,785	
Sub-Total	65,451	
Flood Control Studies (120)		
Alexander and Pulaski Counties, IL -12217	177,275	
Cape Girardeau-Jackson Metropolitan Area, MO -12053	70,432	
Plattin Creek, MO -12137	362	
St. Louis Metropolitan Area, MO & IL -55040	1,193,909	
Ste. Genevieve, MO -80061	207,583	
Richland Creek, IL -12174	146,341	
Sub-total	1,795,902	
Special Studies (140)		
Great River Resource Mgmt Study -14028	12,314	
Carlyle Lake - Shelbyville Lake, Ill. -12160	35,858	
Sub-total	48,172	
Miscellaneous Activities (170)		
Special Investigations -17250	17,000	
Coordination Studies with Other Agencies (180)		
Dept. of Agric. — Soil Cons. Service -51840	1,653	
Tech. & Engrg. Asst. — Shore & Streambank Eros. -51731	165	
Sub-total	1,818	
TOTAL (Category 100)		$1,928,343
COLLECTION AND STUDY OF BASIC DATA (Category 200)		
Inspection and Inventory of Dams (236) -53843 and 53842	209	
Flood Plain Management Services (250) -82030, 83400, and 82040	138,801	
TOTAL (Category 200)		$ 139,010
RESEARCH AND DEVELOPMENT (Category 300)		
None		
ADVANCE ENGINEERING AND DESIGN (Category 600)		
Eldred & Spankey D&LD, IL -00071	47,891	
Hartwell D&LD, IL -00073	187,843	
Hillview D&LD, IL - 00075	201,410	
Meredosia Lake & Willow Creek D&LD, IL -00079	108,443	
Meredosia, IL, and Meredosia, Willow Creek & Coon Run D&LD, IL -00069	186,873	
Meremac River Basin, MO -75412	490,049	
Nutwood D&LD, IL -00623	78,659	
Pine Ford Lake, MO -00091	2,726	
TOTAL (Category 600)		$1,303,894
GRAND TOTAL GENERAL INVESTIGATIONS		$3,371,247

MISSISSIPPI RIVER COMMISSION*

The Mississippi River Commission (MRC) was created by an act of Congress on Jun. 28, 1879. The Flood Control Act of May 15, 1928, authorized the Flood Control, Mississippi River and Tributaries (MR&T) Project. The Commission consists of three officers of the Corps of Engineers, one from the former Coast and Geodetic Survey (presently the National Oceanic and Atmospheric Administration), and three civilians, two of whom must be civil engineers. All members are appointed by the President with the advice and consent of the Senate.

During the fiscal year the Commissioners were: MG William E. Read, U.S. Army, President, appointed Dec. 1, 1981; Mr. Roy T. Sessums, civil engineer; Mr. Sam E. Angel; Mr. R. D. James, civil engineer, appointed Dec. 1, 1981; MG Hugh G. Robinson, U.S. Army, appointed Dec. 1, 1981; BG Richard S. Kem, U.S. Army, appointed Dec. 1, 1981; and RA Herbert R. Lippold, NOAA, appointed March 23, 1982; COL Joseph Yore, U.S. Army served as Secretary of the Commission.

The MRC is charged, under direction of the Secretary of the Army and supervision of the Chief of Engineers, with prosecution of improvements for flood control of the Mississippi River and of its tributaries and outlets in its alluvial valley, so far as they are affected by Mississippi River backwater, between Head of Passes, LA (mile 0), and Cape Girardeau, MO (1,006 miles AHP—Lower Mississippi mileage terminates at mile 954 AHP), and with prosecution of improvements in the interest of navigation between Cairo, IL (954 miles AHP), and Baton Rouge, LA (234 miles AHP); and for stabilization of the lower 7 miles of the right bank of the Ohio River, to former mouth of Cache River. It also is charged with prosecution of certain flood control works on the Mississippi River and tributaries, as far as they are affected by backwater, between Cape Girardeau, MO, and Rock Island, IL (1,437 miles AHP), and with prosecution of improvements on designated tributaries and outlets below Cape Girardeau for flood control, navigation, major drainage, and related water uses. Authorized operations of the Commission below Cape Girardeau are conducted by District Engineers of New Orleans, Vicksburg, and Memphis Districts within the areas described below, in accordance with approved directives and programs and congressional appropriations therefor.

New Orleans District: Mississippi River project levees and river channel stabilization as required from Head of Passes, mile 0 to 320 AHP, construction of four salinity-control structures for fish and wildlife enhancement in lower Mississippi River Delta region; Bonnet Carré and Morganza Floodways; maintenance and improvements of Mississippi River navigation channel from Baton Rouge, LA (mile 234 AHP), to mile 320; Baton Rouge Harbor (Devils Swamp); navigation improvement of Atchafalaya and Old Rivers from Mississippi River to Morgan City; control of Old and Atchafalaya Rivers; Atchafalaya Basin Floodways; flood control and drainage improvements in Bayou Cocodrie and tributaries, in Bayou des Glaises, and in Upper Pointe Coupee Loop area; flood protection in eastern Rapides and south-central Avoyelles Parishes, LA; and freshwater distribution from Atchafalaya River to Teche-Vermilion Basins.

Vicksburg District: Mississippi River project levees and river channel stabilization as required from upper limits of New Orleans District (mile 320 AHP) in vicinity of Black Hawk, LA, to Coahoma-Bolivar County line, MS (mile 620 AHP) on left bank, and to vicinity of mouth of White River, AR (mile 599 AHP), on right bank including south bank Arkansas River levee to vicinity of Pine Bluff, AR, and north bank levee to vicinity of Tucker on left bank of Plum Bayou, AR; bank stabilization in lower 36.1 miles of Arkansas River; maintenance and improvement of Mississippi River navigation channel between miles 320 and 599 AHP; Vicksburg and Greenville Harbors; specific fish and wildlife facilities in Tensas, Yazoo, and Big Sunflower Basins; a streambank erosion control project in the Yazoo Basin; flood control and drainage improvements in Red River backwater area including leveed portion east and west of Black River and south of Red River; Jonesville, LA, Boeuf and Tensas Rivers and Bayou Macon Basins and tributaries, AR and LA, and Bayou Lafourche, LA; Yazoo River Basin, MS, including backwater area; Big and Little Sunflower Rivers, Deer Creek, and Steele Bayou, MS; and Grand Prairie Region and Bayou Meto Basin, AR, including provision for agricultural water supply.

Memphis District: Mississippi River project levees and river channel stabilization as required, from upper limits of Vicksburg District to north bank of Little River diversion channel, MO (1,003 miles AHP), a few miles below Cape Girardeau, MO, on right bank, and to Cache River diversion channel (967 miles AHP) above Cairo, IL, on left bank, including levees and revetment on right bank of Ohio River, in Mounds-Mound City area, IL; except operations above Cairo, IL, do not include channel stabilization on the Mississippi River. Maintenance and improvement of Mississippi River navigation channel between mile 599 and 954 AHP and of Memphis Harbor, TN; specific fish and wildlife facilities in St. Francis Basin; levees in White River backwater area up to vicinity of Augusta, AR, and a pumping plant near mouth of White River; levees and pumping plants at De Valls Blaff and Des Arc, AR; channel improvements in Cache River Basin, AR; channel improvements in Big Creek and tributaries, AR; improvement works in St. Francis River Basin, MO and AR, including backwater area improvements in Belle Fountain Ditch and Drainage District No. 17, AR; Little River diversion channel, MO, and L'Anguille River, AR; Wolf River Basin, TN; Obion and Forked Deer River Basins, TN; Reelfoot Lake area, including channel improvement for Bayou du Chien and Lake No. 9, TN and KY; West Kentucky tributaries, KY; Mud Lake pumping station, TN; and pumping plants and outlet structures in the Cairo-Mounds-Mounds City area, IL.

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* Authorizing legislation (Tables 42-D and 42-E) is listed at the end of this chapter. All other tables are referenced in text and also appear at the end of this chapter.

Field operations of the Commission restricted to levee construction under Sec. 6, 1928 Flood Control Act (local interests contributing one-third of costs and furnishing rights-of-way) are conducted within the following limits by two districts reporting directly to the Commission on matters within their jurisdiction—St. Louis District: Mississippi River (Sec. 6) levees from upper limits of Memphis District to Clemens Station, MO (1,254 miles AHP), on right bank, and Hamburg Bay, IL (1,215 miles AHP), on left bank, and Illinois River from its mouth to mile 120 at Havana, IL. Rock Island District: Mississippi River (Sec. 6) levees from upper limits of St. Louis District to Rock Island, IL (1,437 miles AHP). For work accomplished see Table 42-N, page 42-50, Annual Report for 1975.

MISSISSIPPI RIVER AND ALLUVIAL VALLEY BELOW CAPE GIRARDEAU, MO.

Location and description. The Mississippi River rises in Lake Itasca, MN, and flows generally southerly for 2,340 miles through the central portion of United States to empty into the Gulf of Mexico 115 miles below New Orleans. It is improved for barge navigation for 1,832 miles to Minneapolis, MN. The Mississippi River and its major tributaries, the Missouri, Ohio, St. Francis, White, Arkansas, Yazoo, and Red-Old Rivers, drain 1,245,000 square miles in all or part of 31 states between the Rocky and Appalachian Mountains and part of two Canadian provinces. Below Cape Girardeau, MO, 53 miles above Ohio River, river bottomlands widen abruptly into an alluvial valley of 35,460 square miles which was originally subjected to flood overflow. A major part of the alluvial valley has been protected from floods by levees which confine floodflows within a floodplain having an average width of 5 miles. (See map of alluvial valley of Mississippi River, scale 1:500,000.) Observations made by Mississippi River Commission to Sep. 30, 1982, show approximate all-time maximum and minimum discharges between levees as follows: Cairo to White River, 2,000,000 and 70,000 cubic feet per second; thence to Red River, 2,150,000 and 90,000 cubic feet per second; thence to the Gulf of Mexico, 1,500,000 and 50,000 cubic feet per second in Mississippi River and 660,000 and 11,000 cubic feet per second in Atchafalaya River. As the 1927 floodflow was not confined between levees, maximum discharges recorded do not include entire flow of the 1927 flood, maximum of record below White River. High water and flood stages usually occur in late winter or early spring, but great floods such as that of 1937 occurred as early as January. Low water stages generally prevail from August to December. Extreme all-time ranges in stages recorded at representative gages (rounded to nearest foot) are 60 feet at Cairo, 49 feet at Memphis, 57 feet at Red River Landing, and 21 feet at New Orleans (Carrollton). The river is nontidal above Red River Landing where tidal amplitude rarely exceeds 0.1 foot during extreme low water.

Previous projects. For details see page 1944, Annual Report for 1932.

Existing project. The Mississippi River and Tributaries Project in the alluvial valley between Head of Passes, LA, and Cape Girardeau, MO, provides protection from floods by means of levees, floodwalls, floodways, reservoirs (in Yazoo and St. Francis Basins), bank stabilization, and channel improvements in and along the river and its tributaries and outlets insofar as affected by backwater of Mississippi River, including levee work on the main stem between Cape Girardeau and Rock Island. When completed, 23,621 square miles will be protected from the Mississippi River project flood. The project also provides for a 12- by 300-foot navigation channel between Baton Rouge, LA, and Cairo, IL; for salinity-control structures; and for channel realinement and improvement including bank stabilization and dikes to reduce flood heights, control natural tendency of river to lengthen by meandering, and protect levees from being destroyed by caving banks. Locations of major main stem Mississippi River improvements are shown in Table 42-A and those for off-main stem tributaries are shown in Table 42-B. Pertinent data on dams and lakes are shown in Table 42-C. Authorizing and incorporating legislation are shown in Tables 42-D and 42-E. Summary of presently estimated Federal cost of authorized improvements is shown in Table 42-F. Construction of the existing project began in 1928 and has continued throughout ensuing years. Based on the estimated cost of $10,050,642,000 (Cost projected through the construction period), and actual expenditures through Sep.30, 1983, of $3,457,110,595, the entire project is about 74.8 percent complete.

Recommended modifications. None.

Local cooperation. The Flood Control Act of 1928, as amended, applies. Such requirements have, in general, been complied with by local interests.

Terminal facilities. See volume 1 of two-volume Port Series No. 21, 1979, "Ports on the Gulf Coast of the

United States," for Baton Rouge and Lake Charles, LA; Port Series No. 20, 1981, for New Orleans, LA; also folio of Flood Control and Navigation Maps of Mississippi River Cairo, IL, to the Gulf of Mexico (50th edition), 1982.

Project cost. Total allotted for flood control, including maintenance charges through Aug. 18, 1941, chargeable under authorizations to Sep. 30, 1983, was $3,556,357,836. (See Table 42-S.) (See also Tables 42-R, 42-T, and 42-U for additional financial statements.)

Operations and results during fiscal year. Commission activities:

The 318th session was held on September 27 -October 1, 1982, on board the U.S. MV *Mississippi* en route on the Mississippi River from Cairo, IL, to Morgan City, LA. Bank protection works, levees and channel conditions were observed en route, as well as an inspection of the Lake Chicot project in Arkansas and an on-site inspection of the Teche Vermilion Pumping Plant in Louisiana. Approximately, 165 persons attended public meetings held at Cairo, IL; Memphis, TN; Vicksburg, MS; and Morgan City, LA. About 27 of the representatives presented various problems pertaining to flood control and navigation. This session adjourned at Morgan City, LA, at 11:25 a.m., October 1, 1982.

The 319th session was held December 16, 1982. The Commission met at its headquarters in Vicksburg, MS, to consider two project reports Helena, AR, and Vicinity Feasibility Report of the Memphis District, and the Yazoo Backwater Area Fish and Wildlife Mitigation Report of the Vicksburg District. This session adjourned at 11:50 a.m., December 16, 1982.

The 320th session was held April 25, 1983. The Commission met at its headquarters in Vicksburg, MS, to consider the Memphis District project report: West Memphis, Arkansas and Vicinity Feasibility Report and Environmental Assessment. This session adjourned at 2:20 p.m. on April 25, 1983.

Records of Proceedings of all sessions of the Mississippi River Commission are on file in the office of the President.

Alluvial Valley Mapping

General. Contoured quadrangles and general maps of the alluvial valley are available for departmental use and public distribution under prescribed regulations. Preparation, revision, and publication of quadrangle maps (scale 1:62,500) continued. Road-map-type information brochures of principal portions of the overall project were published along with pamphlets on the subject of flood control and navigation. Maps and supplemental data sheets for active works were updated and published as required.

The 1982 (50th) edition of the folio of flood control and navigation maps (scale 1:62,500) covering the Mississippi River from Cairo, IL, to the Gulf of Mexico was revised and printed.

Approximately 6932 flight-line miles of infra-red color; 8961 flight-line miles of black-and-white aerial photography (various scales); and about 89.2 hours of oblique photography were flown along the Mississippi River and tributaries in the New Orleans, Vicksburg, and Memphis Districts.

Work accomplished in the Districts: New Orleans Revisions of Donaldsonville, Mount Airy, Chef Menteur, and Spanish Fort, LA, 1:62,500-scale quadrangles are in progress.

Memphis District—Series conversion of U. S. Geological Survey 1:24,000-scale to 1:62,500-scale quadrangles of Hayti, MO-AR; Malden, MO, and Pascola, MO, are complete and Edmondson, AR, Horseshoe Lake, AR, Weiner, AR, and Tilton, AR, are in progress. Revision of Rolls, Paducah, Poplar Bluff, Dyersburg, Memphis, and Blytheville, scale 1:25,000 are complete and have been printed.

Vicksburg District—Series conversion of U.S. Geological Survey 1:24,000-scale quadrangles with addition of flood damage features of Raymond, Terry, Seven Pines, Lexington, Greenwood, Hernando, Mileston, and Senatobia, Mississippi are in progress.

Floods

Streamflow observations during the fiscal year follow:

Memphis District—Mississippi River crest stage of 54.2 feet at Cairo gage on May 8-9, 1983, and maximum discharge of 1,486,000 cubic feet per second, occurred on May 9, 1983, at Hickman, KY and crest stage of 39.2 feet at Memphis on May 15, 1983, with maximum discharge of 1,645,000 cubic feet per second on May 15, 1983.

Vicksburg District—Flooding was rampant throughout the Vicksburg District during FY 83. No river basin was spared as new maximum at record stages were set at 17 locations throughout the district during FY 83. Peak stages and discharges on the Mississippi River Vicksburg District's reach were as follows: Arkansas City—43.6 feet on May 25-26, 1983, and maximum discharge of 1,738,000 cubic feet per second; Vicksburg—49.3 feet on May 27-29, 1983, maximum discharge of 1,787,000 cubic feet per second; and Natchez 55.7 feet on May 29-31, 1983, and maximum discharge of 1,804,000 cubic feet per second. The 1983 Mississippi River flood ranked number 5 in magnitude from 1927 to date. Also it was of long duration with the Vicksburg Stage remaining above its bankful stage of 43.0 feet from April 28 to June 16, 1983.

New Orleans District—On the Mississippi River, the Red River Landing gage recorded a maximum stage of 60.48 feet NGVD on May 31, 1983, and the New Orleans gage recorded a maximum stage of 17.42 feet NGVD on May 22, 1983. On the Atchafalaya River, the Simmesport gage recorded a maximum stage of 43.57 feet NGVD on May 31, 1983

Studies and Investivations

General investigations. Surveys and reports, authorized by laws and by Senate and House Public Works Committee resolutions, were made as required. Collection and study of basic data continued. Actions taken on various requests for modifications of the existing project, Mississippi River and Tributaries, authorized by the Flood Control Act of May 15, 1928, as amended (see Table 42-D), follow:

St. Johns Bayou and New Madrid Floodway, MO, Phase I GDM - The MRC Report dated January 29, 1982 contained recommendations for a total of 143.7 miles of channel improvements and construction of a 1,000-cfs and a 1,500-cfs pumping station. Environmental features included purchase of 2,500 acres in mitigation lands, development of a greentree reservoir, and construction of a fish pool weir. The total estimated cost of this recommended improvement is $106,100,000 (Oct 83).

Nonconnah Creek, TN and MS, Phase I GDM - The MRC Report dated January 28, 1982 contained recommendations for 18.2 miles of channel improvement on Nonconnah Creek and recreation features consisting of picnic tables, sanitation facilities, hike/bike trails, and a nature area. The total estimated cost of this recommended improvement is $25,300,000 (Oct 83).

Horn Lake Creek and Tributaries, including Cow Pen Creek, TN and MS, Phase I GDM - The MRC Report dated January 28, 1982 recommended 10.67 miles of various channel improvements in the area of Horn Lake & Cow Pen Creeks, and 4.57 miles of hike/bike trails. The total estimated cost of this improvement is $3,240,000 (Oct 83).

Louisiana State Penitentiary Levee, Mississippi River - The Assistant Secretary of the Army (Civil Works) report dated August 3, 1983, found that Federal financial participation in reconstruction of a state levee protecting a state prison is not an appropriate Federal responsibility. However, the Corps may provide technical assistance to the state, if requested.

Atchafalaya Basin Floodway System, LA, Interim Feasibility Report/Phase I GDM/FEIS which recommended a comprehensive flood control plan with provisions for management and preservation of the environmental resources of the Atchafalaya Basin was submitted to President, MRC, in January 1982. The MRC acted on the report in April 1982 and submitted recommendations to the Chief of Engineers in June 1982. After completion of required state, agency, and public reviews of the report and final EIS, the Chief, by letter report to President, MRC, on February 28, 1983, approved for implementation all features of the report falling within his discretionary authority, primarily the flood control features, except for the Avoca Island levee extension. By separate letter of the same date, the Chief recommended to the Assistant Secretary of the Army for Civil Works the submission of the remaining features of the plan for Congressional authorization, primarily the new features for real estate acquisition, environmental protection, and recreation development. The total estimated cost of plan features approved by the Chief of Engineers is $816,980,000 (October 1982) and the total estimated cost of those features under review by the ASA is $250,240,000 (October 1982). Additional survey studies and advanced studies of the Terrebonne marshes will be completed in FY 87 culminating in the management measures for the Atchafalaya Delta and flooding solutions in areas outside the floodway, to the east and west, including solutions to the backwater flooding influence of the Lower Atchafalaya River to the east of the Avoca Island levee.

Engineering studies. A research program was continued for development of materials and more effective and economical design of regulation features for placing and stabilizing the Mississippi River in a suitable alinement.

Potamology investigations of river behavior continue to be made. Investigations into the major cause-and-effect relationships attributable to major changes in stage-discharge relationships on the Mississippi River as a result of both natural and man-made modifications are continuing.

Mississippi River and Tributaries—Levees

Operations and results during fiscal year. This feature consists of construction of new, and enlargement of existing, levees to approved grade and section; construction and restoration of levee berms; and construction, repair, and maintenance of roads on levees. Work accomplished is summarized in Table 42-N and further broken down as follows:

New Orleans District—Enlarged 14.7 miles of levees in the Main Stem System.

Vicksburg District—Constructed 1.3 miles of berms, and enlarged 4.5 miles of levees, in the Main Stem System. See Table 42-L.

Memphis District—No construction this fiscal year. See Table 42-M.

Condition as of Sep. 30. (See Tables 42-K, 42-L, 42- M, and 42-N.) There are 1,608.3 miles of levees authorized for the Mississippi River below Cape Girardeau, of which 1,601.5 are in place with 1,159.4 built to approved grade and section. The Main Stem Levee System consists of 2,202.1 miles, of which 2,195.3 are in place with 1,551.5 miles completed to approved grade and section. Included in this system are additional levees and structures along the south bank of Arkansas River (85.4 miles); along the south bank of Red River (59.2 miles, with 59.2 completed); and 449.2 miles in the Atchafalaya River Basin, with 449.2 in place with 257.5 completed to grade and section (see Table 42-N). Of the authorized 707.0 miles of berms, 480.3 are complete. Graveled or hard-surfaced roads have been constructed on 1,789.0 miles of these levees.

There are an additional 1,604.2 miles of authorized levees off the main stem, of which 1,109.2 are in place with 812.6 to approved grade and section. Berms have been completed on 9.8 miles and 805.7 miles of graveled or hard-surfaced roads have been constructed on the levees.

For last summary of levee work accomplished under Sec. 6, 1928 Flood Control Act, see Table 42-N, pages 42-50, Annual Report for 1975.

Mississippi River and Tributaries—Channel Improvements

Operations and results during fiscal year. Dredging: Mississippi River Main Stem—(See Table 42-G). Work included dredging 31,018,400 cubic yards for maintenance of channel and harbor improvements. Minimum channel depth of 9 feet was maintained. Dredging was done with the following plant: New Orleans District, channel maintenance dredging was performed by the dredges *Jadwin* and *Lenel Bean*. Vicksburg District, one Government-owned dustpan dredge, one leased dustpan dredge and two leased cutterhead dredges. The Vicksburg District channel maintenance dredging was performed by the dredges *Burgess* and *Lenel Bean*. The harbors were maintained with two leased contract cutterhead dredges *Butcher* and *Lewis James*. Memphis District, one Government-owned dustpan dredge, one leased cutterhead dredge, and one contract dustpan dredge.

Sole source negotiations with Bean Dredging Corporation began in April 1983 for lease of the contractor's dustpan dredge *Lenel Bean*. The contract was awarded in July 1983.

In addition to the contract dustpan, channel maintenance dredging was performed by the dredge *Burgess*. Seven district harbors including McKellar Lake Harbor were maintained with the leased contract cutterhead dredge *Natchez*.

Bank revetment and dikes: (See Table 42-H, 42-I, and 42-J.) Construction of 12.24 miles of new bank revetment and 106,016 squares of concrete mattress, for maintenance, along the Mississippi River was completed by Government plant and hired labor. Also, 6.86 miles of new dikes were constructed and 23,795 squares were placed for maintenance.

In addition, work on tributaries consisted of placement of 0 miles of new dikes and 0 squares for maintenance.

Other work performed in the interest of navigation, supplementing maintenance dredging on Mississippi River between Cairo, IL, and Baton Rouge, LA, included removal of snags, wrecks, and obstructions; issuance of bulletins by the Vicksburg District providing information on available high-water velocities at selected locations; maintaining bulletin boards showing daily gage readings at regular MRC gages; and contract pilot service furnishing navigation interests with latest information and advice on channel conditions and obtaining their views as to needs of navigation interests. Cost of this work is given in Table 42-R.

Condition as of Sep. 30. In carrying out authorized channel improvement program between Baton Rouge and Cairo, 16 cutoffs were developed between 1933 and 1942. These, combined with chute channel development and alinement improvements, decreased channel length between these cities by about 170 miles. However, current velocities increased the attack on the banks and the river began to regain its length. As a result, the net shortening between 1933 and 1962 was 114 miles of the theoretical 170-mile cutoff.

There are now in place 314.62 miles of operative bank revetment and 196.14 miles of dikes on the lower Mississippi River. This amount of channel stabilization should prevent the river from regaining much more of its length due to meandering. A navigation channel 9-by 300-feet is being accomplished by revetment and dikes and maintained by dredging as required during the low-water season. Due to growing effectiveness of channel improvement program, average maintenance dredging requirements are steadily being reduced, and an increase in navigable depth is being obtained. Approximately 99.8 miles of foreshore protection have been constructed along the lower Mississippi River.

There are 62.74 miles of revetment and 5.20 miles of dikes on tributary channels as listed in Tables 42-H, 42-I, and 42-J.

New Orleans District

ATCHAFALAYA BASIN, LA

Operations and results during fiscal year. New work by hired labor: Real estate activities and planning for construction were continued.

New work by contract: Construction of floodside and landside berms and levee enlargement continued intermittently on the east and west protection levees, although there was considerable delay during the year due to exceptionally high water flooding the borrow pits. An additional 11.2 miles of levee enlargement and floodside and landside berms are under construction on the west protection levee involving placement of 275,124 cubic yards during this period and 12.7 miles of levee enlargement and floodside and landside berms on the east protection levee with placement of 660,190 cubic yards. A contract for Pointe Coupee pumping station, Upper Pointe Coupee Loop area, initiated Mar. 23, 1981, was completed Jul. 29, 1983. Contract for the new Tiger Island floodwall, initiated Jan. 18, 1982, is 93 percent complete. Contract for the new Morgan City floodwall, south of Brashear Avenue, was awarded Feb. 24, 1983, initiated May 3, 1983, and is 10 percent complete. Contract for the new Morgan City floodwall, north of Brashear Avenue, was awarded Sep. 8, 1983. A contract for the Berwick floodwall was awarded May 2, 1983, initiated Jun. 16, 1983, and is 11 percent complete.

Maintenance by hired labor: Operation and maintenance of Bayou Boeuf, Berwick, and Bayou Sorrell Locks, Morganza Control Structure, and numerous drainage structures as required, condition and operation studies, and water control management.

Maintenance by contract: Contract for resurfacing and expanding roadways and parking areas at Bayou Boeuf Lock, initiated Sep. 22, 1982, was completed Oct. 29, 1982. Contract for Avoca Island levee emergency erosion repair was awarded May 12, 1983, initiated May 17, and completed May 23, 1983. A contract for construction of new dolphins, Bayou Boeuf Lock, was awarded Jul. 7, 1983, initiated Jul. 15, 1983, and is 48 percent complete.

Maintenance dredging was performed, resulting in the removal of 1,121,000 cubic yards by one leased cutterhead dredge from Berwick Bay harbor between Jul. 25 and Sep. 15, 1983.

Condition as of Sep. 30. Construction was initiated Aug. 7, 1929, with commencement of the west protection levee from Bordelonville to Hamburg, LA. The project is 67 percent complete, based on the current estimated Federal cost of $1,555,000,000 and non-Federal cost of $11,000,000. Of the 449.2 miles of levees and floodwalls authorized for the Atchafalaya system, 257.5 miles are built to grade. See Table 42-K for status of levees.

Major items remaining to be completed include completion of levees to grade and section, channel improvement by dredging to reduce flow line, and bank stabilization. The channel has been enlarged to 60,000 square feet from mile 54.5 to 96.2, and 40,000 square feet from mile 96.2 to 112.3. Enlargement to 100,000 square feet from mile 54.5 to 112.3 remains to be done. Drainage improvements in Upper Pointe Coupee Loop area have not been initiated. Approximately 36.7 miles of bank stabilization have been placed as shown in Table 42-H.

BATON ROUGE HARBOR (DEVILS SWAMP), LA

Operations and results during fiscal year. Maintenance by contract: Dredging for the removal of shoal from the entrance channel was performed, resulting in the removal of 132,670 cubic yards between Aug. 23 and Aug. 29, 1983.

Condition as of Sep. 30. Construction of the first 2.5 miles of the proposed 5.0 miles of channel was initiated in January 1958 and completed in July 1959, with 7,458,086 cubic yards excavated.

The project is 16 percent complete, based on the current estimated Federal cost of $699,200 and cash contributions of $650,000. Completion of the remaining 2.5 miles is dependent on economic justification by developments on the initial channel.

BAYOU COCODRIE AND TRIBUTARIES, LA

Operations and results during fiscal year. Maintenance by hired labor consisted of water control management.

Condition as of Sep. 30. Construction was initiated in June 1946 and is 57 percent complete, based on the current estimated Federal cost of $25,000,000 and non-Federal cost of $316,000. See page 2031, Annual Report for 1961, for description of completed work.

Work required to complete the project consists of enlargement of 13.5 miles of upper Bayou Boeuf, channel improvement of 25.3 miles of Bayou Cocodrie, enlargement of Bayou Courtableau from Washington, LA, to the west protection levee, and additional culverts through the west protection levee at 100 percent Federal cost in lieu of the previously authorized diversion channel from Washington to the Bayou Courtableau drainage structure.

BONNET CARRE SPILLWAY, LA

Operations and results during fiscal year. Maintenance by hired labor: Condition and operation studies, water control management, and ordinary maintenance of the control structure and spillway continued.

Condition as of Sep. 30. Construction of the spillway was initiated in Fiscal Year 1929. The control structure was completed in 1931, levees were completed in 1932, and utility crossings were completed in 1936. The cost of the completed work is $14,212,200.

It was necessary to operate the structure to reduce flood stages in 1937, 1945, 1950, 1973, 1975, 1979, and 1983.

OLD RIVER, LA

Operations and results during fiscal year. New work by hired labor consisted of engineering studies.

New work by contract: Old River Control Auxiliary Structure, Phase I construction, initiated Jul. 9, 1981, was completed Oct. 16, 1982. Contract for Phase II construction initiated Nov. 6, 1982, and is 22 percent complete. Contract for radar and TV surveillance system at the control structure, initiated Apr. 21, 1981, was completed Dec. 15, 1982.

Maintenance by hired labor consisted of operation and maintenance of the lock and control structures as required, condition and operation studies, water control management, maintenance of cleared areas, levee shaping, operation of a picket boat at the inflow channel to the low-sill control structure during high river stages, and engineering studies.

Maintenance by contract: During the period Sep. 15 to Oct. 7, 1983, 272,603 cubic yards of shoal were dredged from the lock forebay. Contract for the overbank outlet riprap repairs was awarded Sep. 22, 1983.

Condition as of Sep. 30. Construction began September 1955 and is 77 percent complete based on the current estimated Federal cost of $315,000,000. Principal items completed are as follows: Low-sill structure, June 1959; overbank structure, October 1959; levees and levee enlargements, October 1963; inflow and outflow channels, February 1961; navigation lock completed December 1962 and opened to navigation

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March 1963, at which time Old River was closed to navigation with a rock and earthfill dam; highway approaches and bridge over the lock completed March 1965. Approximately 4.7 miles of bank protection have been constructed at the inflow and outflow channels. (See Table 42-H for details of bank protection.)

Principal items remaining to complete the project consist of constructing additional bank protection works, providing additional scour protection in the inflow and outflow channels, and completion of the Auxiliary Structure.

TECHE VERMILION BASINS, LA (WATER SUPPLY)

Operations and results during fiscal year. New work by hired labor consisted of engineering studies.

New work by contract: A contract for construction of a pumping station, initiated May 27, 1980, was completed Dec. 7, 1982. A contract for the Bayou Courtableau borrow pit control structure, initiated Aug. 18, 1928, was completed Apr. 26, 1983.

Condition as of Sep. 30. The project is 99 percent complete based on the current estimated Federal cost of $34,857,000 and non-Federal cost of $848,000. Construction was authorized by the Flood Control Act of May 15, 1928, as modified by the Flood Control Act of 1966 (Public Law 89-789 approved Nov. 7, 1966) of the following: a low leveed excavated channel on the west bank of the Atchafalaya River north of Krotz Springs; an inverted siphon under Darbonne Bay; a grated control structure in the WABPL; a gated culvert in the berm between Bayou Courtableau and the WABPL borrow pit to the south; a slotted weir in Bayou Fusilier near Arnaudville; and a navigable sector control structure in the Loreauville Canal. Improvements are to provide additional surface water in Bayou Teche, Vermilion River, and the WABPL borrow pit to satisfy the present and future needs for municipal, industrial, and irrigation water supply and to prevent pollution of these streams.

Vicksburg District

TENSAS BASIN, ARK AND LA

Operations and results during fiscal year.

(a) **Boeuf and Tensas Rivers, and Bayou Macon, AR and LA.** Planning and design were continued on project features. Contracts for the pumps and motors, Phase I recreational facilities, Connerly Bayou Dam, and Ditch Bayou Dam, slurry trench, and storage building are complete on the Lake Chicot Pumping Plant Project. The contract for the Lake Chicot Pumping Plant is underway.

Work was completed on relocation of the Illinois Central Gulf Railroad bridge located in Reach 3, Big and Colewa Creeks.

(b) **Red River backwater area.** Planning and design continued on project features. The channel improvement contract for Wild Cow Bayou and additional channel work contract for the Tensas-Cocodrie Pumping Plant has been completed. The gravity structure contract is complete, and the pumping plant contract was initiated in FY 83. Design and right-of-way acquisition are continuing for the remainder of the Tensas-Cocodrie levee enlargement. An 8a Contract has been negotiated for constructing the Six Mile Bayou project. The contract awarded September 23, 1983, for $968,875, is for 1.5 miles connecting channel and a drainage structure (2-60" pipes). A contract for Sicily Island item 1a was awarded June 9, 1983, at a contract price of $1,258,804 and funded with Jobs Bills appropriations. Item 1a includes 1.0 mile levee and a water control structure (2-60" pipes). The plans and specifications for item 1B are complete and preparation of the Haha Bayou Pumping Plant design in documents has been initiated. Work on the Below Red River Phase II GDM is underway.

Condition as of Sep. 30.

(a) **Boeuf and Tensas Rivers, and Bayou Macon, AR and LA.** Channel improvement has been accomplished on 744.6 miles of project streams, providing major drainage outlets for the tributary areas. Additional 57.2 miles of channel previously enlarged has been further enlarged and 61.6 miles of the Tensas River have been cleared and snagged. A Reevaluation report for the Tensas River Project, above mile 61.6, and the Mill Bayou-Bayou Vidal project has been completed and is awaiting approval.

(b) **Red River backwater area.** Levees in Tensas-Cocodrie area are complete except for levee raising necessary to conform to the Refined 1973 MR&T Project Flood Flowline on the Mississippi River of which 17.8 miles have been completed. The work comprised 93.1 miles of new levee, excluding 2.1 miles of high ground where no levees are required, and 86.9 miles of gravel road on levees. Construction of 68.6 miles of levee, Larto Lake to Jonesville levee system, has been completed. A levee grade reevaluation study is underway for all levee systems in the Red River Backwater area. Pending the outcome of this study, enlargement of the Tensas-Cocodrie levee system has been suspended.

LOWER ARKANSAS BASIN, AR

Condition as of Sep. 30. Arkansas River levees. A total of 56.2 miles of the 61.5 miles of north bank levees and all of the 85.4 miles of south bank levees have been completed to approved grade and section. These levees above mile 36.1 are protected by bank-protection works constructed as a feature of project for Arkansas River and tributaries, AR and OK. For present status of this work, see report of Little Rock District. Below mile 36.1, needed bank protection is constructed with project maintenance funds.

YAZOO BASIN, MS

Operations and results during fiscal year.

(a) **Yazoo City and Belzoni protection works.** Hired labor forces continued operation and maintenance of levees, drainage facilities, and pumping plant.

(b) **Greenwood protection works.** Hired labor forces continued operation and maintenance of pumping plant, levees, and drainage facilities. A review of the protection provided to Greenwood and vicinity was submitted in Supplement C to Greenwood Protection Work (GDM #1) and approved subject to comments in March 1983. Detailed studies are underway for various proposals recommended in the Sup. C report. Four bank stabilization projects are in various stages of planning and construction. These projects, Sites 1, 2, 3 and Claiborne Ave. are planned under the "not less than $250,000" authority in the Appropriations bill. The Site 1 contract was awarded July 20, 1982, and completed November 10, 1982, at a contract price of $388,085. Site 2 contract was awarded September 12, 1983, with a contract price of $582,850, and utilizing Jobs Bill appropriations. Planning is continuing on Claiborne Ave. and Site 3.

(c) **Main stem.** Planning is under way to provide drainage structure and levee closure at Bee Lake. Construction is complete on the Wasp Lake drainage structure and levee closure.

Channel maintenance. Random clearing and snagunflower River. A Phase II GDM for additional work in the Steele Bayou Basin was approved Dec. 20, 1978. Construction on a 11.4 mile item of channel improvement began in April 1982.

(d) **Big Sunflower River, etc.** A contract was awarded on Item 55A, Steele Bayou Channel Improvement, Mile 51.6 to 63.0, on 15 March 1982, and is scheduled for completion in FY 84. Plans and specifications are being prepared for the next item which is scheduled for award in October 85.

(e) **Tributaries.** Construction: (1) Levees. Construction of a dike north of Big Sand Creek. The work is associated with plans to upgrade a portion of south Big Sand Creek levee. Plans and specifications are complete for this item of work, and also for levee work associated with the last item of work on Ascalmore-Tippo Project. Plans and specifications are being prepared for the completion of Panola-Quitman Levee Item C(R).

(2) Channels. Removal of a portion of the plug on Alligator-Catfish Bayou channel at the site of bridge relocations was accomplished. The Alligator-Catfish channel enlargement project is now complete except for removal of the remaining portion of the plug. Controls in Alligator-Catfish channel may be necessary prior to removal of the plug. A study is underway to evaluate these needs. Plans and specifications are complete on remaining channel work on the Ascalmore-Tippo Project.

(3) Bank Stabilization. Construction contract of Tillatoba Creek Phase I was awarded in July 1983. Plans and specifications are being prepared for Phase II Tillatoba Creek.

The planning of the Pelucia Creek Levee Project, printed as Supplement B to the Greenwood Protection Works (GDM #1), is complete and plans and specifications are being prepared for Item 1 contruction.

Maintenance of channels of Yalobusha, Little Tallahatchie, and Yocona Rivers; Cassidy, David, Burrell, and Bobo Bayous; and Ascalmore Creek, by random clearing and snagging and herbicide willow control, continued.

(f) **Enid Lake.** (See Table 42-C.) Construction of public use facilities is substantially complete. Maintenance of these facilities continued. The dam and appurtenant structures were maintained and operated. Rehabilitation of boat channels and snagging and clearing of tributary streams in the lake area continued. Maximum pool elevation in the lake was 270.34 feet above NGVD on May 23, 1983, when storage in the flood control pool was 727,600 acre-feet. Peak 24 hr. inflow was 47,350 cubic feet per second on December 26, 1982. On Sep. 30, 1983, pool elevation was 253.85 feet above NGVD and storage in the flood control pool was 336,700 acre-feet.

(g) **Grenada Lake.** (See Table 42-C.) Construction and maintenance of public use facilities continued. The dam and appurtenant structures were operated and maintained. Maintenance snagging and clearing of tributary streams in the lake area continued. Maximum pool elevation in the lake was 236.30 feet above NGVD on May 22, 1983, when storage in the flood control pool was 1,710,700 acre-feet. Peak 24 hour inflow was 137,100 cubic feet per second on Dec. 26, 1982. On Sep. 30, 1983, the pool elevation was 214.10 feet above NGVD and storage in the flood control pool was 517,700 acre-feet.

Construction of a levee to provide protection to the community of Coffeeville from high Grenada Lake stages was begun in FY 82. In addition to the levee, other features of Coffeeville project include: three drainage structures through the levee; portable pumps; area rehabilitation; and raising of a town street. Construction of the levee and two of the drainage structures was completed in FY 82. The remaining feature of the Coffeeville project will be completed in early FY 84.

(h) **Sardis Lake.** (See Table 42-C.) Construction and maintenance of public use facilities continued. The dam and appurtenant structures were maintained and operated. Clearing of tributary streams in the lake area continued. Maximum pool elevation in the lake was 283.89 feet above NGVD on May 24, 1983, when storage in the flood control pool was 1,718,000 acre-feet. Peak 24 hour inflow was 72,100 cubic feet per second on Dec. 26, 1982. On Sep. 30, 1983, the pool elevation was 260.06 feet above NGVD and storage in the flood control pool was 614,500 acre-feet. An 8-mile reach of the Little Tallahatchie River from Sardis Dam to Highway 51 was clogged with sediment restricting releases from the lake. This reach has been dredged to restore the design capacity of the river. Six disposal sites were selected, located in upland hill areas to reduce the adverse impact on prime agricultural lands along the river and still be in compliance with environmental laws and regulations. Dredging was completed in August 1982.

(i) **Arkabutla Lake.** (See Table 42-C.) Construction of public use facilities is substantially complete. Maintenance of these facilities continued. The dam and appurtenant structures were maintained and operated. Clearing of tributary streams in the lake area was continued. Maximum pool elevation in the lake was 238.06 feet above NGVD on Jan. 2, 1983, and storage in flood control pool was 517,900 arce-feet. Peak 24 hour inflow was 42,300 cubic feet per second on Dec. 26, 1982. On Sep. 30, 1983, the pool elevation was 218.82 feet above NGVD, and storage in the flood control pool was 108,100 acre-feet.

(j) **Yazoo Basin backwater.** The Yazoo Area backwater levees are complete, including the backwater levee from the Mississippi River levee to the west levee of the lower Auxiliary Channel, the Little Sunflower River drainage structure and the connecting channel from the Steele Bayou drainage structure to the Big Sunflower River. A Phase I GDM was completed in FY 82 which addresses rural flooding from ponded runoff inside the backwater levee.

The Satartia area backwater levee is complete. Plans and specifications are being prepared for the drainage structure and Item 1 of the Rocky Bayou Levee System. Completed backwater levees will require raising to provide the degree of protection intended based on the project design flow line developed for the Mississippi River following the 1973 flood.

Four Greentree Reservoirs are now complete. Two of the three remaining reservoirs will be constructed when funds are appropriated. One reservoir has been indefinitely delayed because of right-of-way problems. Project funds will not be available until FY 85. The supply contract for the pumps and motors for the four completed reservoirs is scheduled for award in FY 86. The project is 42 percent complete.

(k) **Upper Yazoo projects.** The first five items of work, approximately 40 miles of channel improvement, beginning at Yazoo City, MS, and extending upstream just south of Belzoni, MS, have been completed.

The next item of work, Item 2-C, consisting of approximately 7.7 miles of channel improvement is under construction. Planning is continuing on the remainder of Items 2 and 3.

(l) **Streambank erosion control.** Construction of the following projects has been completed: Tillatoba and Hunter Creeks, Items 1 and 2; Hunter Creek 1A; South Fork Tillatoba Creek, Items 5A and 5B; North Fork Tillatoba Creek, Items A and 3A; Batupam Boque, Items 4A, 4A-1, and 4A-2; Perry Creek, items 6A and 6B; Johnson Creek, Items 9A, 9B, and vegetative treatment, Item 12; Goodwin Creek, Items 8A, 8B, and 8C; and Hotopha Creek, Item 7.

All construction under this feature is complete, and a final report was submitted to the Secretary of the Army Jan. 5, 1982. All work constructed has been turned over to the local sponsors for operation and maintenance except for the instrumented system on Goodwin Creek where the structures were retained for possible future studies.

Condition as of Sep. 30. The first feature of Yazoo Basin project was started in 1936, and the total project is about 35 percent complete. A total of 47.9 miles of backwater levee has been completed to the interim grade. The ongoing Yazoo Basin Comprehensive Study will address other water resources problems and needs in the area to include urban and rural flood damage prevention, hydropower, and water supply.

LOWER RED RIVER—SOUTH BANK RED RIVER LEVEES, LA

Operations and results during fiscal year. New work by hired labor consisted of engineering studies.

Maintenance by hired labor consisted of water control management, and economic studies.

Condition as of Sep. 30. Construction was initiated in Fiscal Year 1929 and is 50 percent complete, based on the current estimated cost of $37,100,000. Of the 59.2 miles of levees authorized, 59.2 miles are complete. (See Table 42-L for status of levees and Table 42-I for status of revetments.

Memphis District

ST. FRANCIS BASIN, AR AND MO

Operations and results during fiscal year.

(a) **Little River Drainage.** Channel improvement on Castor River, Item 1-Parcel 2 completed Jul. 15, 1983. Channel improvement on Ditch 19, Item 2-Parcel 2 completed Apr. 20, 1983. County bridge, Ditch 24, Mile 5.4 completed Jul. 1, 1983. County bridge, Castor River, Item 1, Mile 7.85 completed Oct. 25, 1982. P&S alterations railroads facilities, Castor River, Item 1 awarded Jul. 26, 1982-98 percent complete. Railroad bridge, Ditch 19, Item 2 awarded Jan. 17, 1983, 2 percent complete. Channel enlargement, Ditch 24, awarded Jun. 17, 1983, 2 percent complete. County bridge, Mile 27.75 Ditch 19, Item 2 awarded Jun. 17, 1983. Levee work, Item R-48.5, AC Nash, 77 percent complete. Levee work, Item R-24.5 A.C. 50 percent complete. Scour repair at Bridge Mile 1.65 Dudley Ditch-Lick Creek completed May 10, 1983. Gravel below Kennett-Senath awarded Jul. 20, 1983. Nash Relief Well Ditches awarded Jul. 29, 1983. Caruthersville Berm Item R-846 awarded Sep. 23, 1983, 2 percent complete. Levee protection, Allenville, MO awarded Aug. 30, 1983. Levee roadway resurfacing Commerce, MO-Scott, awarded Sep. 20, 1983.

(b) **Upper St. Francis River.** Channel enlargement, Ditch 27-Item 2 awarded Apr. 18, 1983-52 percent complete. Alteration of 6-inch gas line, Ditch 27 awarded Feb. 9, 1983-85 percent complete. Channel enlargement, Ditch No. 71, 21A and 25 awarded Jul. 30, 1982-completed Jul. 30, 1983. Channel excavation, Buffalo Creek-Item 2 completed Dec. 10, 1982. Alteration of three sewer lines, Ditch 27 awarded Mar. 16, 1982-74 percent complete. Alteration of US Hwy 63 and placement of riprap protection awarded Sep. 1, 1982-15 percent complete. Alteration of State Hwy 77 and 119, Upper Buffalo Creek was awarded Aug. 29, 1983. Channel Cleanout Ditch 9-Lake City awarded Jul. 13, 1983-98 percent complete. Gravel contract at Rivervale to Mark Tree awarded Jul. 15, 1983-completed Sep. 22, 1983. Levee roadway resurfacing at Princedale in Cross County-completed Sep. 30, 1982. Alteration contract for gas lines crossing Ditch 27 at Miles 12.90, 13.34 and 14.41 awarded Feb. 9, 1983. Alteration of 2-inch gas line, Ditch 25 completed Sep. 20, 1983. Alteration contract of waterline, Ditch 25-completed Sep. 20, 1983. Big Slough Ditch, Cleanout, Item 1 awarded Sep. 26, 1983.

(c) **Lower St. Francis River**. Alteration of four county bridges, Big Creek, Item 2-Phase II, awarded Feb. 26, 1979-34 percent complete. Relocation of county road and abandonment of one county road, Blackfish Bayou awarded FY 78. Levee work Item R-703, Porter Lake awarded May 20, 1983-52 percent complete. Outlet channel clean-out-shoal removal at Huxtable Pumping Plant awarded Aug. 16, 1983. Levee roadway resurfacing, Frenchman Bayou-Whitewall awarded Sep. 13, 1983. Levee roadway resurfacing, Whitewall-St. Francis awarded Sep. 15, 1983. Levee roadway resurfacing, Williamson Light-Point Pleasant awarded Sep. 16, 1983. Levee roadway resurfacing, Helena-Williamson Light awarded Sep. 16, 1983. Slide repairs at Poker Point-West Memphis awarded Sep. 29, 1983. Stateline Outlet, Arkansas Game and Fish Commission, Bridge Mile 4.98 awarded Jun. 23, 1983. Engine replacement at Huxtable Pumping Plant awarded Aug. 5, 1983.

Condition as of Sep. 30.

(a) **Little River Drainage.** Project was initiated during 1938 and is 72 percent complete.

(b) **Upper and Lower St. Francis River and Tributaries.** Project was initiated during 1937 and is 77 percent complete.

(c) **Wappapello Lake, MO.** Generator replacement complete.

WHITE RIVER BACKWATER LEVEES

Operations and results during fiscal year.

(a) Metallizing three pump impellers and three exhaust and intake systems.

(b) Landside Berm Repairs, Item R-641.

(c) Levee work, slide repairs.

Condition as of Sep. 30.

(a) Graham Burke Pumping Plant, awarded Sep. 17, 1982, and is 77 percent complete.

(b) Oldtown awarded Mar. 28, 1983, and completed Jul. 14, 1983.

(c) Phillips and Desha Counties awarded Jun. 10, 1983, 79 percent complete.

LOWER WHITE RIVER

Operations and results during fiscal year.

(a) **Augusta to Clarendon Levee.** There were no contracts awarded or completed during the fiscal year.

(b) **Clarendon Levee.** There were no contracts awarded or completed.

Condition as of Sep. 30.

(a) **Augusta to Clarendon Levee.** Project was initiated during 1946 and is 39 percent complete.

(b) **Clarendon Levee.** Project was initiated during 1972 and is 36 percent complete.

CACHE BASIN, AR

Operations and results during fiscal year. No contracts awarded or completed during the fiscal year.

Condition as of Sep. 30. Project was initiated during 1971 and is 4 percent complete.

REELFOOT LAKE-LAKE NO. 9, TN AND KY

Operations and results during fiscal year. No contracts awarded or completed during the fiscal year.

Condition as of Sep. 30. Project was initiated during 1974 and is 89 percent complete.

WEST TENNESSEE TRIBUTARIES, TN

Operations and results during fiscal year.

(a) **Obion River, TN.** Obion River alteration Illinois Central Railroad bridge across South and Middle Forks. Obion River, Alteration of Hwy 22 Bridge and channel was completed Sep. 13, 1983. Obion River, Channel Improvement - 33 percent complete.

(b) **Forked Deer River, TN.** Forked Deer River, Alteration of Illinois Central Gulf Railroad bridges across North and South Forks.

(c) **Bradford Creek Improvement** started.

Condition as of Sep. 30.

(a) Project is 94 percent complete.

(b) Project is 33 percent complete.

(c) Contract awarded Sep. 21, 1983.

WEST KENTUCKY TRIBUTARIES, KY

Operations and results during fiscal year. Reimbursable contract for alterations of Illinois Central Gulf Railroad bridge across Obion Creek, Item No. 3, is under way. Phase I planning is complete, but con-

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struction has not started. However, the Interstate Commerce Commission has authorized the abandonment of this bridge.

Condition as of Sep. 30. Project was initiated during 1978 and is 4 percent complete.

UPPER YAZOO LEVEE, MS

Operations and results during fiscal year. A contract for Slide Repairs-Walls, MS was awarded Sep. 26, 1983.

TABLE 42-A MISSISSIPPI RIVER IMPROVEMENTS

Mileage Above Head of Passes	Locality	Improvement	Remarks
0-957[1]	Head of Passes, LA-Cairo, IL	Dredging, revetment, and contraction work	-
10-81	The Jump-New Orleans, LA	Main line levee, right bank	-
11-25	Baptiste Collette-Bayou Ostrica, LA	Main line setback, left bank	-
38	Homeplace, LA	Salinity control structure, right bank	Authorized by Public Law 89-298 (HD 308/74/1). Included in MS Delta Region, LA feature.
45	Bohemia, LA	Salinity control structure, left bank	Authorized by Public Law 89-298 (HD 308/74/1). Included in MS Delta Region, LA feature.
59	Myrtle Grove, LA	Salinity control structure, right bank	Authorized by Public Law 89-298 (HD 308/74/1). Included in MS Delta Region, LA feature.
75	Scarsdale, LA	Salinity control structure, left bank	Authorized by Public Law 89-298 (HD 308/74/1). Included in MS Delta Region, LA feature.
44-91	Bohemia, LA-New Orleans, LA	Main line levee and floodwall, left bank	-
81-96	New Orleans, LA	Main line levee, right bank	Authorized by Public Law 81-516.
91-104	New Orleans, LA	Main line levee and floodwall, left bank	Authorized by Public Law 81-516.
96-279	New Orleans-Morganza, LA	Main line levee, right bank	-
101-234	New Orleans-Baton Rouge, LA	Main line levee and floodwall, left bank	-
127-129	Bonnet Carré Floodway, LA	Regulating spillway, left bank	-
235	Baton Rouge Harbor	Devils Swamp barge channel	Modified by Public Law 87-874.
279-287	Morganza Floodway, LA	Regulating spillway, right bank	-
287-303	Morganza-Old River, LA	Main line levee, right bank	Extends up south bank of Old River to Barbre Landing.
303-314	Old River, LA control	Levee closure and enlargement, low and high water spillway structures, navigation lock, and approach channels, right bank	Authorized by Public Law 83-780.
306-572	Old River-Cypress Creek, AR	Main line levee, right bank	Joins Arkansas River, south bank levee.
437	Vicksburg Harbor, MS	Harbor extension and industrial fill	Authorized by Public Law 70-391. Modified by Public Laws 79-526 and 83-780.
437-721	Vicksburg-Lake View, MS	Main line levee, left bank	-
490	Wilson Point, LA	Pumping Plant and drainage structure, right bank	Unpublished Vicksburg District's MRC report approved Apr. 14, 1966.[2]
537	Greenville Harbor, MS	Harbor improvements and port area	Authorized by Public Law 85-500.
646	Long Lake, Helena, AR	Culvert and floodgate, right bank	Authorized by Public Law 79-526.[2]
605-666	Henrico-Helena, AR	Main line levee and floodwall, right bank	-
672-993	St. Francis River-Commerce, MO[3]	Main line levee, right bank	-
722-725	Industrial levee (Ensley Bottoms)	Levee and pumping station	-
721-734	Memphis Harbor, TN	Closure of Tennessee Chute, industrial fill, levee, harbor channels, etc.	Authorized by Public Law 79-526.

TABLE 42-A (Continued) MISSISSIPPI RIVER IMPROVEMENTS

Mileage Above Head of Passes	Locality	Improvement	Remarks
803-873	Tiptonville-Obion River	Main line levee, left bank, levee extension, and diversion Obion River	Modified by Acts of Jul. 24, 1946 and Dec. 23, 1971.
857	Near Mud Lake, TN	Pumping station and adjacent channel improvements	Authorized Dec. 15 and 17, 1970 under Sec. 201 of Oct. 27, 1965 FC Act.
890	St. Johns Bayou, MO	Drainage floodgate and levee closure	Modified by Jul. 24, 1946 Act.
890	New Madrid Floodway, MO	Drainage floodgate and levee closure	Modified by Sep. 3, 1954 Act.
890-954	New Madrid-Birds Point, MO	Floodway, right bank	-
902-922	Slough Bend, Hickman, KY	Main line levee, left bank	-
922	Hickman, KY	Floodwall, left bank	-
946	Peafield, MO	Drainage floodgate	Authorized by Sep. 3, 1954 Act.
957[1]	Cairo, Cairo drainage district	Floodwalls and levees	-
957[1]	Cairo, Cairo drainage district, Mounds, Mound City, and vicinity	Floodwalls, levees, and pumping plant	-
	Thebes-Rock Island, IL	Levees, both banks	Intermittent (Sec. 6).
	Cape Girardeau, MO to Rock Island, IL	Levees	Intermittent (Sec. 6).

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1. Cairo, IL, is on Ohio River about 3 miles above its mouth (Mississippi River mile 954 AHP).
2. Also see Table 42-D, "Authorizing Legislation."
3. Commerce, MO, is on Upper Mississippi River, 39 miles above mouth of Ohio River.

TABLE 42-B

MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
	ATCHAFALAYA BASIN, LA[1]		
	Atchafalaya Basin, Morganza and West Atchafalaya Floodways		
0-54	West Atchafalaya Floodway between Red River and Alabama Bayou	Floodway	-
27-54	Morganza Floodway between Mississippi River and Alabama Bayou	Floodway	-
54-117	Atchafalaya Basin Floodway between Alabama Bayou and Morgan City	Floodway	-
	East protection levee (Morganza and Atchafalaya Floodways)		
20-27	Lacour-Red Cross	Levee, upper Morganza guide	-
25-117	Morganza-Morgan City	Levee and Morgan City floodwall	Including lower Morganza Floodway guide levee.
27	Bayou Latenache	Drainage structure, Pointe Coupee, and channel enlargement	Through upper Morganza guide levee and enlargement of outlet channel.
0-27	Upper Pointe Coupee Loop area	Additional drainage facilities	Enlargement of Bayou Latenache. Approved Jun. 4, 1970. See Table 42-D.
31-57	Bayou Fordoche-Ramah	Drainage channel	Levee landside borrow pit.
80	Bayou Sorrel[1]	Lock	Alternate route, Gulf Intracoastal Waterway Port Allen to Morgan City.
53-117	Bayou Sorrel Lock-Morgan City	Alternate navigation channel, Gulf Intracoastal Waterway	Gulf Intracoastal Waterway utilizes levee west side borrow pit channel.
117	Morgan City	Lock in Bayou Boeuf[1]	Gulf Intracoastal Waterway.
117-129	Below Morgan City	Channel relocation	Bypass route for Gulf Intracoastal Waterway.
117-129	Below Morgan City	Levee, floodwall	East of lower river.
	Atchafalaya Basin Floodway lower protection levee		
105	Calumet	Floodgate, east	Bayou Teche-Wax Lake Outlet.
105-120	Below Morgan City	Levees, floodwall, drainage structures, and pumping plants	Inclosed area between Wax Lake Outlet and Berwick.
115	Berwick[1]	Lock	Lower Atchafalaya River.
116	Patterson	Water system	Adjustment to provide fresh water.
	West protection levee (Atchafalaya Basin and West Atchafalaya Floodways)		
5	Simmesport-Hamburg	Levee fuse plug	West Atchafalaya Floodway.
5-105	Mansura to Wax Lake Outlet	Protection levee	-
	Coulee des Grues	Levee enlargement and floodgate extension	-
29	West Atchafalaya Floodway	Railway	-
29	Morganza Floodway	Railway	-
40	Bayou Darbonne	Gated drainage structures	Through West Atchafalaya protection levee.
40	West Atchafalaya Floodway	Highway	-
40	Morganza Floodway	Highway	-

TABLE 42-B (Continued) MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
41	Bayou Courtableau	Gated drainage control structures and channels	-
41	West Atchafalaya Floodway	Railway	-
41	Morganza Floodway	Railway	-
94	Charenton	Floodgate and approach channels	Borrow pit channel to Grand Lake through West Atchafalaya protection levee.
94	Jaws-Lake Fausse Pointe	Outlet, Charenton drainage canal and protection levee.	Restoration of drainage west of West Atchafalaya Basin protection levee.
105	Calumet	Floodgate, west	Bayou Teche and Wax Lake Outlet.
105	Wax Lake Outlet	Drainage canal-railway and highway bridges	To lower flood heights.
	Atchafalaya River		
0-54	Barbre Landing-Alabama Bayou	East bank, levee	-
5-6	Simmesport	Levee, ring, and drainage structure	-
5-66	Simmesport-Bayou Garofier	West bank, levee	-
28-30	Melville	Levee, ring	-
40-41	Krotz Springs	Levee, ring	-
54-117	Below Alabama Bayou	Channel enlargement	Increase channel capacities to decrease flood heights.
94-106	Mississippi River-Morgan City	12- by 125-foot navigation channel	Through Grand and Six Mile Lakes.
	TECHE-VERMILION BASINS, LA		
	Atchafalaya River to Teche-Vermilion Basins	Pumping station above Krotz Springs, conveyance channels, and appurtenant works	Freshwater distribution from Atchafalaya River to Teche-Vermilion Basins.
Mileage Above Mouth	*Courtableau Basin, LA, and outlets*		
0-8	Charenton Canal	Drainage channel	Outlet to gulf.
50-133	West Atchafalaya protection levee borrow pit channel	Drainage channel	Intercepting drainage channel.
96	Bayou Courtableau spillway	Drainage control structure	-
133	Bayou des Glaises	Diversion channel	-
	BAYOU COCODRIE AND TRIBUTARIES		
	Bayou Courtableau	Enlargement and additional culverts	Washington to west protection levee.
0-17	Bayou Cocodrie	Enlargement and realinement	-
17-40	Bayous Cocodrie-Bouef diversion	New channel	-
40-51	Bayou Boeuf	New channel	-
51-60	Bayous Boeuf-Rapides diversion	New channel	-
17-42	Upper Cocodrie	Enlargement, clearing, and snagging	-
	Bayou Boeuf		
87-107	Bayou Lamourie to Kincaid	Enlargement, realinement, clearing and snagging	-
	Structures		
40	Lecompte Control Structure	Fixed elevation weir	-
60	Bayou Rapides Control Structure	Gated drainage structure	-

TABLE 42-B (Continued) MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
87	Bayou Lamourie Control Structure	Gated drainage structure	-
	Various	Railway, highway, and local road bridges, and pipeline crossing	-
	LAKE PONTCHARTRAIN, LA		
	Lake Pontchartrain, Jefferson Parish, LA	Flood protection	(2, 3)
	AMITE RIVER, LA		
	Amite River, LA	Bank protection	Authorized by Public Law 81-516. Eliminated by Public Law 89-298.
	LOWER RED RIVER, SOUTH BANK, RED RIVER LEVEES, LA		
82-145	Moncla-Hotwells	Levee, south bank	-
	Red River-Moncla to Lake Long	Levees	Intermittent (Sec. 6).
	EASTERN RAPIDES AND SOUTH-CENTRAL AVOYELLES PARISHES, LA		
	Eastern Rapides and south-central Avoyelles Parishes, LA	Flood protection and drainage improvement	Authorized by Public Law 91-611.
	TENSAS BASIN, AR AND LA		
	Red River backwater area		
	Tensas-Cocodrie area	Levees, drainage channels, structures, and pumping plant	(4)
3-56	Larto Lake-Jonesville	Levees, drainage channels, and structures	(4)
	Sicily Island area	Levees, drainage channels, and structures	(4)
3-56	Below Red River area	Levees, drainage channels, and structures	(4)
	Black River, LA		
5	Six Mile Bayou area	Drainage structure and appurtenant channel works	Unpublished VXD-MRC Letter Report dated May 31, 1977. MR&T authority.[2]
56	Jonesville, LA	Levees, floodwall, pumping plant, and interior drainage	Portion of levee built under Sec. 6. Incorporated in MR&T by Public Law 81-516.[2]
	Ouachita River	Levees, drainage channels, and structures	Monroe to Sandy Bayou and Bawcomville (Sec. 6).
	Boeuf and Tensas Rivers and Bayou Macon, AR, and LA		
	Boeuf River, AR, and LA		
0-32	Below Bayou La Fourche	Clearing	(5)
0-56	Bayou LaFourche	Channel improvement and realinement	(5)
151-235	Boeuf River, AR, and LA above Bayou LaFourche	Channel improvement	Authorized by Public Laws 78-534 and 79-526.[2, 3]
210-286	Canal 19	Channel improvement	(5)
286-296	Canal 19 extension	Channel improvement	(6)
0-75	Big and Colewa Creeks	Channel improvements	Authorized by Public Law 78-534.[3]

TABLE 42-B (Continued) MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
	Tributaries of Boeuf River—Canal 19		
0-8	Fleschmans Bayou	Channel improvement	(6)
0-7	Caney Bayou	Channel improvement	(6)
0-33	Big Bayou	Channel improvement	(5)
0-10	Canal 18	Channel improvement	(6)
0-9	Kirsch Lake Canal	Channel improvement	(6)
0-14	Black Pond Slough	Channel improvement	(6)
	Bayou Macon, AR, and LA		
0-170	Bayou Macon	Channel improvement	See Table 42-E
0-34	Canal 43	Channel improvement	(5)
0-35	Canal 81	Channel improvement	(5)
Lake Chicot	Pumping plant and drainage structure	To divert flows from Lake Chicot	Authorized by Public Law 90-483.
	Tributary of Bayou Macon		
0-6	Rush Bayou	Clearing	(6)
	Tensas River, AR and LA		
0-160	Tensas River	Channel improvement	Authorized by Public Law 78-534.[3]
	Tributary of Tensas River		
0-16	Mill and Vidal Bayous	Channel improvement	Authorized by Public Law 89-298.
	Grant's Canal, LA		
0-0.2	Grant's Canal at Lake Providence	Filling canal	Authorized by Public Law 81-516.
	LOWER ARKANSAS RIVER, AR		
23-98	Yancopin-Pine Bluff	Levee, south bank	-
35-98	Fletcher Bend, AR to Pine Bluff	Revetment	-
48-102	North Little Rock to Gillett (below Plum Bayou)	Levee, north bank	(5)
	GRAND PRAIRIE-BAYOU METO, AR		
	Grand Prairie Region and Bayou Meto Basin, AR	Water supply and drainage improvements	Authorized by Public Law 81-516.
	YAZOO BASIN, MS		
0-75	Yazoo Backwater area	Levees and pumping plants	-
0-381	Yazoo River System below Arkabutla Lake	Channel improvement	Including Tallahatchie and Coldwater Rivers.
75-366	Yazoo River between Yazoo City and Prichard	Levees, right bank	Intermittent.
75-345	Yazoo River between Yazoo City and Askew	Levees, left bank	Intermittent.
45-109	Will M. Whittington Auxiliary Channel	Floodway channel	-
75	Yazoo City protection	Levee, drainage structure, and pumping plant	-
	Rocky Bayou area	Channel clearing and enlargement	Improvement of 7.8 miles was approved Apr. 29, 1970.
127	Belzoni protection	Levee and floodwall	-
185	Greenwood protection	Levees, channel improvement, drainage structures, and pumping plants	-
381	Arkabutla Lake	Flood detention and conservation	See Table 42-C.

TABLE 42-B (Continued) MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
0-64	Yalobusha River below Grenada Lake	Channel improvement	-
64	Grenada Lake	Flood detention and conservation	See Table 42-C.
0-24	Tallahatchie River-Little Tallahatchie River	Levees, Panola-Quitman Floodway	-
0-26	Little Tallahatchie River below Sardis Lake	Channel improvement	-
26	Sardis Lake	Flood detention and conservation	See Table 42-C.
0-13	Yocona River below Enid Lake	Channel improvement	-
13	Enid Lake	Flood detention and conservation	See Table 42-C.
0-88	Cassidy Bayou below Old Coldwater River	Channel improvement	Including Moores Bayou, Cutoff Bayou, Whiting Lake and outlet.
137-260	Upper Yazoo Projects	Floodway channel	-
75-381	Area between main stem and hills including Bobo Bayou	Levees and channel improvement	Authorized by Public Law 79-526.
	McKinney Bayou	Channel improvement and enlargement of pumping plant	Authorized by Public Law 79-526.
0-8.3	Alligator-Catfish Bayous	Channel improvement	Authorized by Public Law 89-298. As modified in GDM in 1967.
0-23	Bear Creek	Channel improvement	Authorized by Public Law 89-298.
0-42	Whiteoak Bayou	Channel improvement	Authorized by Public Law 89-298.
275-290	Tallahatchie River, MS	Two road crossings of Panola-Quitman Floodway, MS and for protection of Sheley Bridge	Authorized by Public Law 90-147.
	Big Sunflower River, etc.		
0-204	Big Sunflower River	Channel improvement	Authorized by Public Law 78-534.[3]
0-8	Hull Brake-Mill Creek Canal	Channel improvement	-
0-28	Hushpuckena River	Channel improvement	-
0-81	Quiver River	Channel improvement	-
	Gin and Muddy Bayous, MS	Channel improvement	Authorized by Public Law 87-874.
0-43	Bogue Phalia	Channel improvement	Authorized by Public Law 78-534.[3]
0-4	Ditchlow Bayou	Channel improvement	Authorized by Public Law 78-534.[3]
0-27	Little Sunflower River	Channel improvement	Authorized by Public Law 78-534.[3]
153-160	Deer Creek	Channel improvement	Authorized by Public Law 78-534.[3]
0-68	Steele Bayou	Channel improvement	Authorized by Public Law 78-534.[3] Modified in December 1970. See Table 42-D.
	Muddy Bayou	Water-control structure	Approved Mar. 3, 1970. See Table 42-D.
	LOWER WHITE RIVER AND BASIN, AR		
13-55	Laconia Circle-Old Town Lake	Levee, backwater including outlet	Mile 605-645 Mississippi River.
		Pumping plant	(6)
0-68	Big Creek and tributaries	Channel improvement and structures	Authorized by Public Law 89-298.
99	Clarendon levee	Levee and outlet structures	Authorized by Public Law 89-298.

TABLE 42-B (Continued)

MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
108-192	Augusta to Clarendon	Levees, outlet structures	(5)
122	De Valls Bluff	Levee, outlet structure, and pumping station	(5)
143	Des Arc, AR	Levee, outlet structure, and pumping station	Authorized by Public Law 81-516.
	CACHE BASIN, AR		
0-196	Cache River, AR	Channel improvement and structures	Authorized by Public Law 81-516.
0-90	Bayou DeView, AR	Channel improvement and structures	Authorized by Public Law 81-516.
	ST. FRANCIS RIVER AND BASIN, AR, AND MO		
260	Inter-River Drainage District in Missouri	Channel improvement and two outlet structures	Authorized Dec. 16, 1975. See Table 42-D.
0-225	Mouth of St. Francis River-Wappapello Dam	Floodway, levees, drainage channels, and structures	-
225	Wappapello Lake	Flood detention and conservation	See Table 42-C.
0-105	Little River Basin	Floodway, levees, drainage channels, and structures	-
86	Marked Tree, AR	Marked Tree Siphon	-
0-36	Tyronza River	Channel improvement	-
0-29	Big Slough Ditch	Channel improvement	-
0-17	Mayo Ditch	Channel improvement	-
0-12	Cross County Ditch	Channel improvement	-
	Belle Fountain Ditch	Channel improvement	Authorized by Public Law 90-483.
	Drainage District No. 17	Channel improvement and pumping station	Authorized by Public Law 90-483.
	L'ANGUILLE RIVER, AR		
0-108	L'Anguille River and tributaries, Brushy and First Creeks	Channel improvement	Authorized by Public Law 80-858.
	WEST TENNESSEE TRIBUTARIES		
0-25	Wolf River and tributaries, TN	Channel improvement	(6)
	Obion River and tributaries, North, South, Middle, and Rutherford Forks	Channel improvement	Authorized by 1948 Flood Control Act.
	Forked Deer River and tributaries, North, Middle, and South Forks	Channel improvement	Authorized by 1948 Flood Control Act.
	Mud Lake Pumping Station, TN	Pumping plant	Authorized by Resolutions Dec. 15 and 17, 1970.[2]
	Harris Fork Creek, TN and KY	Flood control improvements	Authorized by Water Resources Act of Oct. 22, 1976.[2] Section 102, 1976.[2]
	Porter Gap, TN	Construction to main-stem standards, levee and appurtanent structures for flood control	Section 183, 1976.[2]
	REELFOOT LAKE-LAKE NO. 9, TN AND KY		
0-20	Running Reelfoot Bayou, TN	Channel improvement	Authorized by Public Law 83-780.
0-15	Bayou du Chien and Lake No. 9, KY and TN	Channel improvements and pumping station	Authorized in December 1970, See Table 42-D.

TABLE 42-B (Continued) MISSISSIPPI RIVER TRIBUTARY AND OUTLET IMPROVEMENTS

Mileage Below Head of Atchafalaya River	Locality	Improvement	Remarks
	WEST KENTUCKY TRIBUTARIES, KY		
0-47	Obion Creek, KY	Channel improvement	Authorized by Public Law 89-298.
	LITTLE RIVER DIVERSION CHANNEL, MO		
	Delta to Ancell, MO	Levees	Mile 49 above Cairo.
	MISSOURI RIVER, MO		
0-28	Mouth to St. Charles, MO	Levees	Intermittent (Sec. 6).
	ILLINOIS RIVER, IL		
0-120	Mouth to Havana, IL	Levees	Intermittent (Sec. 6).
	OHIO RIVER, IL AND KY		
	Cairo to Mound City and Mounds, IL	Floodwall, levee, revetment, and pumping plant	

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1. General data concerning Bayou Boeuf, Bayou Sorrel, and Berwick locks where Atchafalaya Basin protection levees cross Gulf Intracoastal Waterway, alternate route to Plaquemine, LA and lower Atchafalaya River (extension of Bayou Teche Waterway), respectively, are in report of New Orleans district.
2. Also see Table 42-D, "Authorizing Legislation."
3. Public Law 81-516 modified requirements of local cooperation.
4. Authorized by Public Law 77-228. Modified by Public Law 89-298.
5. Authorized or incorporated in MR&T by Public Law 79-526.[3] See Table 42-D.
6. Authorized by Public Law 85-500.

MISSISSIPPI RIVER COMMISSION

TABLE 42-C

MISSISSIPPI RIVER TRIBUTARY DAMS AND LAKES

Name[1]	Grenada Lake	Enid Lake	Sardis Lake	Arkabutla Lake	Wappapello Lake
River	Yalobusha	Yocona	Little Tallahatchie	Coldwater	St. Francis
Nearest town to damsite	Grenada	Enid	Sardis	Arkabutla	Wappapello
Drainage area, square miles	1,320	560	1,545	1,000	1,310
Conservation pool:					
Area, thousand acres	10	6	11	5	4
Volume, thousand acre-feet	86	58	108	31	31
Elevation, feet, NGVD	193	230	236.0	209.3	354.7
Flood control pool:					
Area, thousand acres	65	28	58.5	33	23
Volume, thousand acre-feet	1,252	602	1,462	494	582
Runoff, inches	17.8	20.2	17.7	9.3	8.4
Outlet gates:					
Number	3	2	4	3	3
Size, feet	7.5 by 14	8 by 16	6 by 12	8.5 by 19	10 by 20
Capacity, thousand cubic feet per second	10.7	9.4	10.0	10.0	18.0
Spillway:					
Type, uncontrolled	Chute	Chute	Chute	Chute	Gravity
Length, feet	200	200	400	300	740
Elevation, crest, feet, NGVD	231	268	281.4	238.3	394.7
Discharge capacity, thousand cubic feet per second	52	50	132	89	229
Surcharge pool:					
Area, thousand acres	106	41	90	63	32
Volume, thousand acre-feet	1,385	554	1,447	858	521
Runoff, inches	19.7	18.5	17.6	16.1	7.5
Elevation, feet, NGVD	247.5	284.0	301.0	256.3	413.7
Dam:					
Type, earthfill	Rolled	Rolled	Hydraulic	Rolled	Rolled
Length, thousand feet	13.9	8.4	15.3	11.5	2.7
Elevation, crest, feet, NGVD	256.0	293.0	311.4	264.3	419.7

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1. Grenada, Enid, Sardis and Arkabutla Lakes are in Yazoo River Basin, MS; Wappapello Lake is in St. Francis River Basin, MO.

TABLE 42-D AUTHORIZING LEGISLATION

Act or Authorization	Work Authorized	Document
May 15, 1928	Flood protection in alluvial valley of Mississippi River, revetment and contraction works and dredging to provide least channel depth of 9 feet and width of 300 feet below Cairo.	H. Doc. 90, 70th Cong., 1st sess.
Jun. 19, 1930	Provided for allotment of the balance of emergency rescue funds to reimburse levee districts and others for expenditures in flood-control works during the 1927 and subsequent floods.	Public 395, 71st Cong., 2d sess.
Feb. 15, 1933	Provided for ownership of lands in Bonnet Carré Spillway and Floodway with proviso for granting rights-of-way, easements, and permits, in said lands	Public 351, 72d Cong.
Apr. 23, 1934	Authorized payment for purchase of, or to reimburse states and local levee districts for the cost of, levee rights-of-way for flood control work in the Mississippi Valley, and for other purposes.	Public 171, 73d Cong.
Aug. 30, 1935	Improvement of Wolf and Nonconnah Rivers, TN (Nonconnah *Creek* is correct title)	R&H Comm. Doc. 26, 72d Cong., 1st sess.
	Improvement of Wolf River (Memphis Harbor), TN	R&H Comm. Doc. 45, 74th Cong., 1st sess.
Jun. 15, 1936	Modification of the 1928 Act to provide for:	
	Construction of a backwater levee at mouth of White River, AR	Unpublished report dated Apr. 2, 1925.
	Construction of Eudora floodway in lieu of Boeuf floodway; flood control, Yazoo River; construction of Morganza floodway; and an outlet to the Gulf of Mexico west of Berwick, LA, including a 6-year program for the improvement and regularization of the Mississippi River between Arkansas and Red Rivers, and Atchafalaya River; and construction of roads on levees and drainage adjustments incident to floodway levees.	H. Comm. on Flood Control, Doc. 1, 74th Cong., 1st sess.
Aug. 28, 1937	Provided for construction of floodwalls, levees, and revetments along Wolf River and Nonconnah Creek for protection of Memphis, TN	Unpublished report on record in OCE.
	Modify the Yazoo River project to substitute a combined reservoir floodway and levee plan.	
Jun. 28, 1938	Construction of Mounds to Mound City levee and control works along Cache River, IL	H. Comm. on Flood Control, Doc. 1, 75th Cong., 1st sess.
	Modification of previous act pertaining to floodways and outlets and lands therein; including program for the improvement and regularization of the Mississippi River, between Cairo and Arkansas River, extension of levee road system; strengthening of levees.	H. Comm. on Flood Control, Doc. 1, 75th Cong., 1st sess.
Aug. 18, 1941	Enlarge main line levees to offset abandonment of floodways between Arkansas and Red Rivers, flood control works in backwater areas of Yazoo and Red Rivers, and in Bayous Rapides, Boeuf, and Cocodrie, LA	H. Doc. 359, 77th Cong., 1st sess.
Dec. 22, 1944	Navigation channel 12 feet deep and 300 feet wide between Baton Rouge and Cairo; flood protection of Yazoo River Backwater Area in vicinity of Satartia, MS	H. Doc. 509, 78th Cong., 2d sess.
	Continue prosecution of channel improvement and stabilization program, $200 million.	Public Law 534, 78th Cong., 2d sess.
Jul. 24, 1946	Flood control on the Big Sunflower, Little Sunflower, Hushpuckena, and Quiver Rivers and their tributaries, and on Hull Brake-Mill Creek Canal, Bogue Phalia, Ditchlow Bayou, Deer Creek, and Steele Bayou, MS[1]	H. Doc. 516, 78th Cong., 2d sess.
	Improve Boeuf and Tensas Rivers and Bayou Macon, AR[1]	S. Doc. 151, 78th Cong., 2d sess.
	Improve Bayou Lafourche, LA	S. Doc. 191, 79th Cong., 2d sess.
	Improve Yazoo River tributaries.	H. Doc. 516, 78th Cong., 2d sess.
	North bank, Arkansas River levees (below Plum Bayou).[1]	H. Doc. 308, 74th Cong., 1st sess.

TABLE 42-D (Continued)

AUTHORIZING LEGISLATION

Act or Authorization	Work Authorized	Document
	Levees on White River (Augusta to Clarendon).[1]	H. Doc. 98, 76th Cong., 1st sess.
	Bayou des Glaises diversion channel, LA[1]	H. Doc. 602, 79th Cong., 2d sess.
	Modify local cooperation requirements in St. Francis and Yazoo Basins.	Public Law 526, 79th Cong., 2d sess.
	Tiptonville-Obion levee and drainage improvements.[1]	H. Doc. 757, 79th Cong., 2d sess.
	Improvement of St. Johns Bayou, MO	H. Doc. 138, 80th Cong., 1st sess.
	Big Sunflower River, etc.[1]	H. Doc. 516, 78th Cong., 2d sess.
	Tennessee Chute (Memphis Harbor), TN	S. Doc. 51, 80th Cong., 1st sess.
	Continue prosecution of project for flood control and channel improvement, $100 million	Public Law 526, 79th Cong., 2d sess.
Jun. 30, 1948	Improve Mississippi River below Cape Girardeau, MO with respect to West Tennessee tributaries.	H. Doc. 627, 80th Cong., 2d sess.
	Improve L'Anguille River, AR	H. Doc. 651, 80th Cong., 2d sess.
	Baton Rouge Harbor (Devils Swamp), LA[1]	H. Doc. 321, 80th Cong., 1st sess.
May 17, 1950	Flood protection at Des Arc, AR	H. Doc. 485, 81st Cong., 2d sess.
	Improve St. Francis River and Basin, AR and MO	H. Doc. 132, 81st Cong., 1st sess.
	Improve Cache River and Bayou DeView, AR and MO	S. Doc. 88, 81st Cong., 1st sess.
	Improve Grand Prairie Region and Bayou Meto Basin, AR	H. Doc. 255, 81st Cong., 1st sess.
	Flood protection, Lake Pontchartrain, Jefferson Parish, LA[1]	S. Doc. 139, 81st Cong., 2d sess.
	Filling Grant's Canal, Lake Providence, LA	Public Law 516, 81st Cong., 2d sess.
	Additional protection to Red River Backwater Area.	Public Law 516, 81st Cong., 2d sess.
	Extend Federal jurisdiction to cover levees in Orleans Parish, LA	Public Law 516, 81st Cong., 2d sess.
	Bank protection, Amite River, LA	Public Law 516, 81st Cong., 2d sess.
	Continue prosecution of project for flood control and channel improvement, $200 million.	Public Law 516, 81st Cong., 2d sess.
	Jonesville, LA levee, retaining wall, and drainage structure.[1]	S. Doc. 117, 81st Cong., 1st sess.
Oct. 30, 1951	Modify requirements for local cooperation in White River Backwater Area, AR	Public Law 237, 82d Cong., 1st sess.
Sep. 3, 1954	Navigation improvement of Atchafalaya from Mississippi River to Morgan City, LA	S. Doc. 53, 82d Cong., 1st sess.
	Modify project for Vicksburg-Yazoo Area (Harbor), MS	H. Doc. 85, 83d Cong., 1st sess.
	Improve New Madrid Floodway, MO, including Peafield drainage floodgate.	H. Doc. 183, 83d Cong., 1st sess.
	Control of Old and Atchafalaya Rivers and a lock for navigation.	H. Doc. 478, 83d Cong., 2d sess.
	Improve Reelfoot Lake area, KY and TN	S. Doc. 160, 83d Cong., 2d sess.
Jul. 3, 1958	Improve Greenville Harbor, MS	S. Doc. 15, 86th Cong., 1st sess.

TABLE 42-D (Continued)

AUTHORIZING LEGISLATION

Act or Authorization	Work Authorized	Document
	Extensions to project for Boeuf and Tensas Rivers and Bayou Macon in Arkansas.	H. Doc. 108, 85th Cong., 1st sess.
	White River backwater area pumping plant.	S. Doc. 26, 85th Cong., 1st sess.
	Wolf River and tributaries for flood protection in Tennessee.	H. Doc. 76, 85th Cong., 1st sess.
Jul. 14, 1960	Continue prosecution of project for channel improvement—$50 million.	Public Law 86-645.
Oct. 23, 1962	Modification—Baton Rouge Harbor (Devils Swamp), LA	Public Law 87-874.
	Construct improvements in Gin and Muddy Bayous, Yazoo River Basin, MS	Public Law 87-874.
	Replace 2 bridges with adequate floodway over Boeuf River and Big Bayou in Boeuf Basin, AR	Public Law 87-874.
Jun. 18, 1965	Continue prosecution of project for flood control and channel improvement. $53 million.	Public Law 89-42.
Oct. 27, 1965	Modify and expand levees and channel improvement features of main stem project.	H. Doc. 308, 88th Cong., 2d sess.
	Modify flood control improvements in following tributary areas and basins: Cairo-Mounds-Mounds City, St. Francis, Lower White, Boeuf-Tensas-Macon, Red River backwater, Yazoo headwater, Grand Prairie, and Bayou Meto.	H. Doc. 308, 88th Cong., 2d sess.
	Acquire any modified easements required in New Madrid Floodway as provided by Sec. 4 of May 15, 1928 act.	H. Doc. 308, 88th Cong., 2d sess.
	Operate and maintain pumping plant in Red River backwater area (Tensas-Cocodrie Pumping Plant).	H. Doc. 308, 88th Cong., 2d sess.
	Provide improvements in West Kentucky tributaries.	H. Doc. 308, 88th Cong., 2d sess.
	Provide fish and wildlife facilities in St. Francis and Big Sunflower Basins; Yazoo Headwater and Backwater Areas; and Mississippi Delta region.	H. Doc. 308, 88th Cong., 2d sess.
	Deauthorize Amite River, LA project.	H. Doc. 308, 88th Cong., 2d sess.
	Modify St. Francis River, MO and AR, project within District No. 7, Poinsett County, AR	S. Doc. 57, 89th Cong., 1st sess.
Apr. 14, 1966[2]	Provide pumping plant and drainage structure at Wilson Point, LA	Unpublished Vicksburg District's MRC report Approved-Apr. 14, 1966.
Nov. 7, 1966	Construction of improvements to supplement freshwater supply in Teche-Vermilion Basins in Louisiana.	H. Doc. 524, 89th Cong., 2d sess.
	Bank revetment for protection of existing industrial facilities along Mississippi River below Baton Rouge, LA	Public Law 89-789.
	Modification of West Tennessee tributaries feature to provide relocation of gas transmission lines at Federal expense.	Public Law 89-789.
Nov. 20, 1967	Continue emergency work, $87,135,000, which includes $100,000 for road crossing of Panola-Quitman Floodway, MS, and $80,000 for protection of Sheley Brid [illegible] Tallahatchie River, MS	Public Law 90-147.
Aug. 13, 1968	Improvements in Boeuf and Tensas Rivers and Bayou Macon Basin to divert flows that would otherwise enter Lake Chicot, AR	H. Doc. 168, 90th Cong., 1st sess.
	Improvements in the Belle Fountain ditch and tributaries, MO, and Drainage District No. 17, AR	H. Doc. 339, 90th Cong., 2d sess.
	Provide pumping plants and other drainage facilities in Cairo, IL, and vicinity.	Public Law 90-483.
Sep. 10, 1968[3]	Modification of Yazoo Headwater Project to include cleanout along David Bayou, MS	Unpublished MRC report dated May 8, 1968.
Mar. 3, 1970[3]	Modify Yazoo Backwater feature to include a control structure in Muddy Bayou, MS	Unpublished MRC report dated Feb. 2, 1970.

TABLE 42-D (Continued)

AUTHORIZING LEGISLATION

Act or Authorization	Work Authorized	Document
Apr. 29, 1970[3]	Modification of Yazoo Headwater Project to include drainage structure and channel improvement on Rocky Bayou, MS	Unpublished MRC report dated Mar. 6, 1970.
Jun. 4, 1970[3]	Provide for enlargement of Bayou Latenache from Pointe Coupee drainage structure to Alabama Bayou, LA	Unpublished MRC report dated Sep. 22, 1969.
Dec. 31, 1970	Modify and expand project to include flood protection within the area of eastern Rapides and south-central Avoyelles Parishes, LA, that are drained by Bayou des Glaises diversion channel and Lake Long, and their tributaries.	S. Doc. 91-113, 2d sess.
	Modify the project for West Kentucky tributaries (Obion Creek), KY, to provide for all relocations, at Federal expense, of all transmission lines required by the project.	Public Law 91-611.
Senate and House Public Works Resolutions adopted Dec. 17 and 15, 1970, respectively.[4]	Report on Western Tennessee Tributaries, TN and KY, authorized: a. Modification of Reelfoot Lake feature to provide channel improvements on Bayou du Chien and Lake No. 9 in KY and TN b. Modification of Mississippi levee feature to include a pumping station near Mud Lake floodgate and adjacent channel improvements.	H. Doc. 91-414, 2d sess.
	Modification of Big Sunflower Basin feature to provide additional improvements in Steele Bayou Basin, MS	S. Doc. 91-74, 2d sess.
River Basin Monetary Act of Dec. 23, 1971	Continue prosecution of project for the comprehensive development of the basin, $97 million.	Sec. 1, Public Law 92-222.
	Modification of Tiptonville-Obion River levee feature to relieve local interests of all responsibility except that of providing maintenance.	Sec. 7, Public Law 92-222.
Jan. 19, 1973[2]	Modification of the Mississippi levee feature to provide additional drainage facilities in Long Lake area, vicinity of Helena, AR	Unpublished Memphis District's MRC report dated Oct. 4, 1972.
TITLE I Water Resources Development Act of 1974.	Projects recommended by four completed reports were authorized for accomplishment of Phase I design memorandum of advance engineering and design on:	Sec. 1, Public Law 93-251. Mar. 7, 1974.
	a. Greenville Harbor, Greenville, MS	S. Doc. 93-38, 1st sess.
	b. East bank of Mississippi River, Warren to Wilkinson Counties, MS (Natchez area).	H. Doc. 93-148, 1st sess.
	c. East bank of Mississippi River, Warren to Wilkinson Counties, MS (Vicksburg-Yazoo area).	H. Doc. 93-148, 1st sess.
	d. Bushley Bayou Area of Red River Backwater Area, LA	H. Doc. 93-157, 1st sess.
	Modification of West Tennessee tributaries feature (Obion and Forked Deer Rivers), TN, to acquire lands for fish and wildlife, recreation, and environmental purposes.	Sec. 3, Public Law 93-251.
	Modification of the Yazoo Basin, MS, feature to provide for a streambank erosion control demonstration project for the delta and hill areas of basin.	Sec. 32, Public Law 93-251.
	Modification of project to provide that the Secretary of the Army, acting through the Chief of Engineers, can substitute authorized mitigation lands, not yet acquired and no longer suitable, for like acreage in the same or adjacent subbasins of the project area. This section provides the authority to substitute authorized mitigation lands in: a. Tensas Basin, LA and AR, feature (Red River backwater). b. St. Francis Basin, AR and MO, feature.	Sec. 42, Public Law 93-251.
	Modification of Bayou Cocodrie and tributaries, LA, feature, to provide for: enlargement of Bayou Courtableau from Washington to west protection levee; right-of-way and spoil disposal areas at Federal expense; and necessary additional culverts through west protection levee.	Sec. 87, Public Law 93-251.

TABLE 42-D (Continued)

AUTHORIZING LEGISLATION

Act or Authorization	Work Authorized	Document
	Modification of Cache River Basin, AR, feature to provide for: acquisition by fee easements of lands for fish and wildlife management, recreation, and environmental purposes.	Sec. 99. Public Law 93-251.
TITLE II River Basin Monetary Authorization Act of 1974	Continue prosecution of project for the comprehensive development of the basin, $211 million.	Sec. 201, Public Law 93-251. Mar. 7, 1974.
River Basin Monetary Act of Oct. 2, 1975	Continue prosecution of project for the comprehensive development of the basin, $158,000,000.	Sec. 1, Public Law 94-101.
Dec. 16, 1975[2]	Modification of St. Francis Basin, AR and MO, feature to provide relief from ponding of interior runoff in the Inter-River Drainage District of Missouri.	Unpublished Memphis District's MRC report dated Nov. 11, 1975.
TITLE II Public Works for Water and Power Development and Energy Research Appropriation Act 1976.	Continue prosecution of project for comprehensive development during period Jul. 1 - Sep. 30, 1976, $60,300,000.	Public Law 94-180, Dec. 26, 1975.
TITLE II Public Works for Water and Power Development and Energy Research Appropriation Act, 1977.	Continue prosecution of project for flood control, rescue work, repair, restoration, and control of bank erosion, $231,497,000.	Public Law 94-355, Jul. 12, 1976.
Water Resources Development Act of 1976.	Sec. 101(a) authorized accomplishment of Phase I - Advanced Engineering and Design Memoranda - On· a. St. Johns Bayou and New Madrid Floodway, MO, project: Report of OCE - Sep. 26, 1975. b. Nonconnah Creek, TN and MS, project: Report of OCE - Jun. 23, 1976, and as an independent part of the project: Improvements for flood control and allied purposes on Horn Lake Creek and tributaries, including Cowpen Creek, TN and MS. Modification of West Tennessee Tributaries feature (Obion and Forked Deer Rivers), TN, to: a. (Sec. 102) - Provide project for flood control for Harris Fork Creek, TN and KY: (H.D. 94-221) except that highway bridge relocations and alterations shall be at Federal expense. b. (Sec. 183) - Provide for construction of a levee and appurtenant works from mouth of Obion diversion channel to vicinity Highway 88 and thence to vicinity of Porter Gap, TN	Public Law 94-587, Oct. 22, 1976.
TITLE II Public Works for Water and Power Development and Energy Research Appropriation Act, 1978.	Continue prosecution of project for flood control, rescue work, repair, restoration, and control of bank erosion, $253,081,000.	Public Law 95-96 Aug. 7, 1977.

TABLE 42-D (Continued) AUTHORIZING LEGISLATION

Act or Authorization	Work Authorized	Document
Dec. 9, 1977, 5th Ind. on VXD May 31, 1977, Letter Report.[2]	Modification of the Tensas Basin Project, Red River Backwater Area, to include a drainage structure and appurtenant channel works in the Six Mile Bayou area of Concordia Parish, LA	Unpublished Vicksburg District report dated May 31, 1977, on Cynthia and Six Mile Bayous, LA
Jun. 28, 1980	The establishment of the Tensas River National Wildlife Refuge for the preservation and development of environmental resources and in lieu of mitigation acquisitions which otherwise would be required for certain water resources projects, within designated limits, in the basins of the Tensas, Boeuf, and Red Rivers in the State of Louisiana.	Public Law 96-285, Jun. 28, 1980.
Energy and Water Development Appropriation Act, 1981	For expenses necessary for prosecuting work of flood control projects, rescue work, repair, restoration or maintenance of flood control projects threatened or destroyed by flood, $232,519,000: Provided, That not less than $250,000 be available for control of bank erosion of streams in the Yazoo Basin, including the foothill area. Provided further, That funds for the Tensas Basin Red River Backwater Area, be used for flood control, etc. for Sicily Island and Below Red River including pumping stations.	Public Law 96-367, Oct. 1, 1980.

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1. Incorporated into Mississippi River and tributaries project as shown in Table 42-E.

2. Date minor modification for blocked drainage was approved under delegated authority of the President, Mississippi River Commission, and in accordance with Sec. 10(p) of the 1946 Flood Control Act (Public Law 79-526).

3. Date minor modification was approved under discretionary authority of Chief of Engineers contained in May 15, 1928, Flood Control Act, as amended.

4. Projects approved under the provisions of Sec. 201 of Flood Control Act of Oct. 27, 1965.

TABLE 42-E INCORPORATING AND AUTHORIZING LEGISLATION

Act of Incorporation	Public Law No.	Authorizing Act	Description	For Last Full Report See Annual Report for
Jul. 24, 1946	79-526	Jun. 22, 1936	Tiptonville-Obion levee and drainage improvements, TN	1941, p. 943
Jul. 24, 1946	79-526	Jun. 22, 1936	Bayou des Glaises diversion ditch, LA	1946, p. 1029
Jul. 24, 1946	79-256	Jun. 22, 1936	From North Little Rock, AR, to Gillett, AR, on north bank of Arkansas River (portion below Plum Bayou).	1946, p. 1053
Jul. 24, 1946	79-256	Aug. 18, 1941	White River levees, Augusta to Clarendon and De Valls Bluff, AR	1946, p. 1083
Jul. 24, 1946	79-526	Dec. 22, 1944	Boeuf and Tensas Rivers and Bayou Macon, LA	1945, p. 982
Jul. 24, 1946	79-526	Dec. 22, 1944	Big Sunflower River, etc.	1946, p. 1061
Jun. 30, 1948	80-858	Jul. 24, 1946	Devils Swamp barge channel at Baton Rouge, LA (Baton Rouge Harbor)	1948, p.1059
May 17, 1950	81-516	Jun. 22, 1936	Jonesville, LA	1953, p.773
May 17, 1950	81-516	Jul. 24, 1946	Lake Pontchartrain-Jefferson Parish, LA	1953, p. 737

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TABLE 42-F SUMMARY OF PRESENTLY ESTIMATED FEDERAL FIRST COST OF AUTHORIZED IMPROVEMENTS

Project Title	Estimated Cost[1] Fiscal Year 1983
Completed features[2]	$ 165,432,000
Mississippi River levees	1,516,000,000
Mud Lake Pumping Station, TN	4,170,000
Sec. 6 levees, 1928 Flood Control Act	4,000,000
Channel improvement	3,055,000,000
Atchafalaya Basin, LA	1,752,000,000
Bayou Cocodrie and tributaries, LA	25,000,000
Old River, LA	320,000,000
Lower Red River— South Bank Red River levees, LA	42,000,000
Eastern Rapides and South-Central Avoyelles Parishes, LA	57,900,000
Mississippi Delta Region, LA	33,200,000
Teche-Vermilion Basins, LA	35,700,000
Tensas Basin, AR and LA	495,000,000
Lower Arkansas River, AR	34,700,000
Grand Prairie-Bayou Meto, AR	130,900,000
Yazoo Basin, MS	1,625,000,000
Lower White River, AR	52,000,000
Cache Basin, AR	146,000,000
St. Francis Basin, AR and MO	351,000,000
L'Anguille Basin, AR	24,900,000
West Tennessee Tributaries, TN	89,400,000
Harris Fork Creek, TN & KY	18,000,000
Reelfoot Lake-Lake No. 9, TN & KY	(10,840,000)
Reelfoot Lake, TN & KY (Completed)	440,000
Reelfoot Lake-Lake No. 9, TN & KY	10,400,000
West Kentucky Tributaries, KY	22,500,000
Tensas River National Wildlife Refuge	40,000,000
TOTAL	$10,050,642,000

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1. Inflation projected through the construction period.

2. Includes Bonnet Carré, Morganza, and New Madrid Floodways; Memphis, Greenville, and Vicksburg Harbors; Lake Pontchartrain; Wolf River; completed roads on main stem levees; channel construction works; Atchafalaya River and Basin; Wax Lake Outlet; Charenton Canal; Bayou des Glaises diversion channel, Boeuf Basin levees; Grant's Canal; De Valls Bluff, Jonesville, and Des Arc protection works; Baton Rouge Harbor; and miscellaneous features.

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TABLE 42-G

MISSISSIPPI RIVER MAIN STEM CHANNEL IMPROVEMENTS

Location		Operations in 1,000 Cubic Yards Fiscal Year 1983		
District	Mileage Above Head of Passes	Channel Construction	Maintenance	Total
New Orleans				
Baton Rouge Harbor (Devils Swamp)	235	-	132.7	132.7
Main stem channel	234-320	-	357.3	357.3
Vicksburg				
Main stem channel	320-600	-	2,831.0	2,831.0
Vicksburg Harbor	437	-	0	0
Greenville Harbor	537	-	273.0	273.0
Memphis				
Main stem channel	600-954	846.3	11,672.7	11,672.7
Memphis Harbor	726	-	466.4	466.4
TOTAL		846.3	15,733.1	15,733.1

TABLE 42-H BANK REVETMENTS AND DIKES: NEW ORLEANS DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction						Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
			New Work			Reinforcement				
			Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]		
MISSISSIPPI RIVER										
Standard revetment:										
Lower Childress-Fort Jackson, LA	22	R	-	-	-	-	-	-	-	10,194
Buras, LA	25	R	-	-	-	-	-	-	-	17,283
Tropical Bend, LA	30	R	4,320	250	26,737	-	-	-	-	25,012
Port Sulphur, LA	39	R	-	-	-	-	-	-	-	27,238
Point Michel, LA	44	R	-	-	-	-	-	-	-	17,842
Bohemia, LA	46	L	-	-	-	-	-	-	-	12,380
Diamond, LA	49	R	-	-	-	-	-	-	-	8,750
Gravolet, LA	51	L	-	-	-	-	-	-	-	17,435
Junior, LA	54	R	-	-	-	-	-	4,175	-	17,570
Harlem, LA	56	L	-	-	-	-	-	-	-	13,975
Myrtle Grove, LA	59	R	-	-	-	-	-	4,169	-	15,925
Monsecour, LA	61	L	-	-	-	-	-	-	-	10,020
Alliance, LA	62	R	2,600	160	11,770	-	-	-	-	9,750
Belair, LA	65	L	-	-	-	-	-	-	-	21,295
Jesuit Bend, LA	68	R	5,315	90	26,685	-	-	10,133	-	22,860
Linwood, LA	71	L	-	-	-	-	-	-	-	9,125
Oak Point, LA	72	R	-	-	-	-	-	-	-	7,040
Scarsdale, LA	75	L	5,635	55	22,866	-	-	-	-	11,575
English Turn, LA	78	R	6,840	120	24,883	-	-	-	-	13,750
Poydras, LA	82	L	-	-	-	-	-	-	-	44,814
Cutoff, LA	88	R	5,495	130	25,642	-	-	-	-	21,256
Third district reach, LA	93	L	-	-	-	-	-	-	-	21,101
Algiers Point, LA	95	R	-	-	-	-	-	-	-	7,728
Gouldsboro Bend, LA	96	R	-	-	-	-	-	-	-	4,960
Gretna Bend, LA	97	R	-	-	-	-	-	-	-	9,662
Greenville Bend, LA	100	R	-	-	-	-	-	-	-	22,045
Carrollton Bend, LA	104	L	-	-	-	-	-	-	-	15,015
Avondale Bend, LA	109	R	-	-	-	-	-	-	-	22,371
Kenner, LA	114	L	-	-	-	-	-	-	-	22,219
Luling, LA	119	R	1,380	135	5,796	-	-	-	-	28,908
Good Hope, LA	126	L	-	-	-	-	-	-	-	14,980
Waterford, LA	128	R	-	-	-	-	-	-	-	12,295
Montz, LA	132	L	-	-	-	-	-	-	-	17,502
Lucy, LA	136	R	-	-	-	-	-	-	-	17,826
Reserve, LA	138	L	-	-	-	-	-	-	-	20,947
Willow Bend, LA	141	R	-	-	-	-	-	2,430	-	7,618
Angelina, LA	145	L	-	-	-	-	-	-	-	19,000
Vacherie, LA	148	R	-	-	-	-	-	-	-	13,295
Belmont, LA	152	L	-	-	-	-	-	-	-	24,785
Rich Bend, LA	157	R	-	-	-	-	-	4,599	-	19,144
Romeville, LA	161	L	-	-	-	-	-	-	-	15,334

St. Alice, LA	165	R	-	-	-	-	-	6,742	-	27,052
Burnside, LA	170	L	-	-	-	-	-	-	-	16,050
Aben, LA	172	R	4,680	110	24,878	-	-	2,799	-	10,113
St. Elmo, LA	174	L	-	-	-	-	-	-	-	10,240
Smoke Bend, LA	177	R	-	-	-	-	-	13,071	-	17,075
Marchand, LA	180	L	-	-	-	-	-	-	-	7,845
Philadelphia Point, LA	183	R	-	-	-	-	-	-	-	5,379
New River Bend, LA	185	L	-	-	-	-	-	-	-	24,394
White Castle, LA	193	R	-	-	-	-	-	6,633	-	33,335
St. Gabriel, LA	201	L	10,790	430	55,124	-	-	-	-	25,161
Plaquemine Bend, LA	209	R	-	-	-	-	-	6,689	-	35,475
Manchac, LA	215	L	-	-	-	-	-	-	-	30,972
Missouri Bend, LA	222	R	-	-	-	-	-	-	-	16,193
Arlington, LA	227	L	-	-	-	-	-	-	-	12,244
Port Allen, LA	231	R	-	-	-	-	-	-	-	11,320
Allendale, LA	238	R	-	-	-	-	-	-	-	17,940
Springfield Bend, LA	244	L	-	-	-	-	-	-	-	25,690
Arboth, LA	250	R	-	-	-	-	-	-	-	13,190
Grand Bay, LA	258	R	-	-	-	-	-	-	-	7,090
Bayou Sara, LA	265	L	-	-	-	-	-	-	-	4,780
Red Store, LA	269	R	3,485	-	8,897	-	-	-	-	11,315
Arrow Bend, LA	272	L	-	-	-	-	-	-	-	13,600
Boies Point, LA	275	R	-	-	-	-	-	-	-	16,094
Morganza, LA	279	R	-	-	-	-	-	-	-	20,513
Iowa Point, LA	282	L	-	-	-	-	-	-	-	11,375
Brunette Point, LA	285	R	-	-	-	-	-	-	-	8,038
Greenwood Bend, LA	289	L	-	-	-	-	-	-	-	14,987
Hog Point, LA	296	R	-	-	-	-	-	-	-	8,673
Carr Point, LA	304	R	-	-	-	-	-	-	-	8,600
Above Old River, LA	305	R	-	-	-	-	-	-	-	4,800
Fort Adams, MS	308	L	-	-	-	-	-	-	-	17,219
Point Breeze, LA	313	R	-	-	-	-	-	-	-	11,165
Coochie, LA	317	R	-	-	-	-	-	-	-	17,150
Palmetto, MS	322	L	-	-	-	-	-	-	-	30,864
Subtotal New Orleans District, Mississippi River			50,540 (9.57 Miles)	1,480	233,278	-	-	61,440	-	1,237,755 (234.42 Miles)

Dikes:
None

OLD RIVER CONTROL

Standard revetment:										
Inflow channel	315	L	-	-	-	-	-	-	-	2,415
Inflow channel	315	R	-	-	-	-	-	-	-	4,365
Outflow channel	315	R	-	-	-	-	-	-	-	17,754
Total standard revetment, Old River			-	-	-	-	-	-	-	24,534 (4.65 Miles)

TABLE 42-H (Continued) BANK REVETMENTS AND DIKES: NEW ORLEANS DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction						Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
			New Work			Reinforcement				
			Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]		
ATCHAFALAYA RIVER	Below Confluence of Red and Atchafalaya Rivers									
Standard revetment:										
Mile One, LA	1	L	-	-	-	-	-	-	-	4,150
Coville, Bayou, LA	3	R	-	-	-	-	-	-	-	6,550
Legonier, LA	4	L	-	-	-	-	-	-	-	8,940
Simmesport, LA	6	R	-	-	-	-	-	-	-	10,636
Kuhlman Bayou, LA	7	L	-	-	-	-	-	-	-	5,565
Odenburg, LA	9	R	-	-	-	-	-	-	-	5,375
Cason, LA	12	R	-	-	-	-	-	-	-	10,798
McCrea, LA	13	L	-	-	-	-	-	-	-	5,027
Woodside, LA	14	R	-	-	-	-	-	-	-	13,002
Provosty, LA	17	L	-	-	-	-	-	-	-	7,768
Crooked Bayou, LA	18	R	-	-	-	-	-	-	-	9,600
Mercier, LA	22	L	-	-	-	-	-	-	-	10,478
Barberton, LA	23	R	-	-	-	-	-	-	-	3,592
Evans Point, LA	24	L	-	-	-	-	-	-	-	4,961
Goudeau, LA	26	R	-	-	-	-	-	-	-	3,938
Morris Bayou, LA	27	L	-	-	-	-	-	-	-	3,800
Goodwood, LA	28	R	-	-	-	-	-	-	-	8,505
Red Cross, LA	29	L	-	-	-	-	-	-	-	8,065
Melville, LA	30	R	-	-	-	-	-	-	-	4,870
Cross Bayou, LA	31	L	-	-	-	-	-	-	-	3,815
Melville South, LA	33	R	-	-	-	-	-	-	-	4,070
Toles, LA	35	L	-	-	-	-	-	-	-	6,355
Petite Prairie, LA	36	R	-	-	-	-	-	-	-	8,381
Holloway Lake, LA	37	L	-	-	-	-	-	-	-	7,085
Bayou Sherman, LA	38	L	-	-	-	-	-	-	-	5,200
Krotz Springs, LA	40	R	-	-	-	-	-	-	-	4,625
Sherburne, LA	43	R	-	-	-	-	-	-	-	7,035
Bayou Big Graw, LA	46	R	-	-	-	-	-	-	-	8,394
Morgan City	115	L	-	-	-	-	-	-	-	3,410
Total standard revetment			-	-	-	-	-	-	-	193,990 (36.74 Miles)

Dikes:
None

123.

LOWER RED RIVER	Below Confluence of Old River Outflow Channel and Red River									
Standard revetment:										
Long Lake, LA	10	R	-	-	-	-	-	-	-	6,652
Naples, LA	7	R	-	-	-	-	-	-	-	6,190
Turnbull Island, LA	9	L	-	-	-	-	-	-	-	6,815
Total standard revetment			-	-	-	-	-	-	-	19,657 (3.72 Miles)

Dikes:
None

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1. Gross squares articulated concrete mattress (100 square feet).

TABLE 42-I BANK REVETMENTS AND DIKES: VICKSBURG DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction						Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
			New Work			Reinforcement				
			Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]		
MISSISSIPPI RIVER										
Standard revetment:										
Bougere Bend, LA	329	R	-	-	-	-	-	-	-	20,805
Dead Mans Bend, MS	335	L	-	-	-	-	-	-	-	10,380
Railroad Landing, MS	346	L	7,215	-	22,579	-	-	-	-	7,215
St. Catherine Bend, LA	350	R	3,920	-	9,064	-	-	-	-	21,470
Morville, LA	356	R	-	-	-	-	-	-	-	11,815
Natchez Island, MS	357	R	-	-	-	-	-	-	-	2,180
Carthage, MS	361	L	-	-	-	-	-	-	-	14,585
Natchez Front, MS	364	L	-	-	-	-	-	-	-	6,510
Gibson, LA	371	R	-	-	-	-	-	-	-	22,735
Ashland, LA-MS	374	L	-	-	-	-	-	-	-	18,657
Kempe Bend, LA	383	R	-	-	-	-	-	-	-	26,655
Browns Field, LA	389	R	-	-	-	-	-	-	-	9,280
Goldbottom, MA	392	L	-	-	-	-	-	-	-	30,250
Hardscrabble, LA	398	R	-	-	-	-	-	-	-	22,530
Grand Gulf, MS	403	L	-	-	-	-	-	-	-	49,076
Point Pleasant, MS-LA	413	R	-	-	-	-	-	-	-	32,345
Togo Island, LA	415	R	-	-	-	-	-	-	-	5,670
Lake Karnac, LA-MS	419	L	-	-	-	-	-	-	-	19,260
Diamond Point, LA-MS	423	R	-	-	-	-	-	-	-	12,125
Reid-Bedford, LA	429	R	-	-	-	-	-	-	-	18,392
Racetrack, MS	433	L	-	-	-	-	-	-	-	13,935
Barge Line Terminal, MS	437	L	-	-	-	-	-	-	-	3,040
Vicksburg Harbor, MS	437	L	-	-	-	-	-	-	-	7,350
Delta Point, LA	437	R	-	-	-	-	-	-	-	7,650
King's Point—Opposite Delta Point, LA-MS	439	L	-	-	-	-	-	-	-	19,330
False Point, LA	443	R	-	-	-	-	-	-	-	12,860
Marshall-Brown's Point, LA-MS	446	L	-	-	-	-	-	-	-	19,580
Milliken Bend, LA	453	R	-	-	-	-	-	-	-	44,650
Belle Island, LA-MS	460	L	-	-	-	-	-	-	-	24,160
Goodrich, LA	467	R	-	-	-	-	-	-	-	37,220
Fitler-Cottonwood, MS	474	L	-	-	-	-	-	-	-	28,427
Hagaman, LA	481	R	-	-	-	-	-	-	-	37,756
Ben Lomond, MS	486	L	-	-	-	-	-	-	-	10,235
Baleshed Towhead-Stack Island, LA-MS	488	R	-	-	-	-	-	-	-	52,124[2]
Lake Providence, LA	489	R	-	-	-	-	-	-	-	11,600
Mayersville, MS	497	L	-	-	-	-	-	-	-	34,992
Sarah Island-Opossum Point, LA-MS	503	R	-	-	-	-	-	-	-	16,970

Carolina, MS	507	L	-	-	-	-	-	-	-	11,080
Cracraft, AR	511	R	-	-	-	-	-	-	-	22,210
Worthington, MS-AR	514	R	-	-	-	-	-	-	-	8,350
Walnut Point Kentucky Bend, MS	519	L	-	-	-	-	-	-	-	45,653
American Cutoff, MS-AR	526	L	-	-	-	-	-	-	-	2,980
Sunnyside-Lakeport, AR	530	R	-	-	-	-	-	-	-	33,685
Vancluse, AR	534	R	-	-	-	-	-	-	-	4,300
Island 84, AR, MS	535	L	-	-	-	-	-	-	-	13,475
Warfield Point, MS	537	L	-	-	-	-	-	-	-	4,320
Leland-LaGrange, AR-MS	538	L	-	-	-	-	-	-	-	14,150
Spanish Moss, AR	539	R	-	-	-	-	-	-	-	4,580
Tarpley Island, MS	542	R	-	-	-	-	-	-	-	2,000
Miller Bend, MS	544	L	-	-	-	-	-	-	-	29,360
Island 82, AR	546	R	-	-	-	-	-	-	-	3,080
Ashbrook Island, MS	549	R	-	-	-	-	-	-	-	3,455
Arkansas City-Yellow Bend, AR	553	R	-	-	-	-	-	-	-	40,560
Huntington Point, MS	556	L	-	-	-	-	-	-	-	10,045
Pair O'Dice, AR	561	R	-	-	-	-	-	-	-	9,095
Eutaw-Mounds, MS	563	L	-	-	-	-	-	-	-	40,188
Cypress Bend, AR	568	R	-	-	-	-	-	-	-	26,585
Catfish Point, MS	573	L	-	-	-	-	-	-	-	20,075
Ozark, AR-MS	578	R	-	-	-	-	-	-	-	22,015
Prentiss, AR-MS	582	L	-	-	-	-	-	-	-	20,315
Rosedale Bend, AR	585	L	-	-	-	-	-	-	-	4,820
Riverton, MS	586	L	-	-	-	-	-	-	-	12,500
Klondike, AR	588	R	-	-	-	-	-	-	-	23,400
Victoria Bend-Terrene, MS	593	L	-	-	-	-	-	-	-	29,245
Big Island, AR	598	R	-	-	-	-	-	-	-	16,515
Smith Point, MS	601	L	-	-	-	-	-	-	-	18,185
Dennis, MS	611	L	-	-	-	-	-	-	-	21,265
Cessions, MS	615	L	-	-	-	-	-	-	-	10,910
Total revetment, Vicksburg District, Mississippi River			11,135 (2.10 Miles)	0	31,643	0	0	0	0	1,272,210 (241.0 Miles)
Dikes:								(3)		
Jackson Point MS	330	L	-	-	-	-	-	-	-	4,306
Opposite Warnicott Ldg, MS	352	L	5,341	-	-	-	-	-	-	3,341
Natchez Island, LA-MS	358	R	-	-	-	-	-	-	-	7,695
Waterproof Bar, LA	379	R	-	-	-	-	-	-	-	11,372
Spithead Towhead, MS	386	L	-	-	-	-	-	-	-	3,661[4]
Browns Field, LA	388	R	-	-	-	-	-	-	-	4,835[4]
Cottage Bend, LA-MS	389	L	-	-	-	-	-	-	-	14,049
Bondurant Towhead, LA	394	R	-	-	-	-	-	-	-	4,421
Coffee Point, LA	405	R	-	-	-	-	-	-	-	3,260
Yucatan, MS	410	R	-	-	-	-	-	-	-	9,010
Togo Island, LA	416	L	-	-	-	-	-	-	-	8,226
Below Racetrack, MS	430	L	-	1,845	-	-	-	-	-	10,299
Racetrack Towhead, MS	431	R	-	-	-	-	-	-	-	1,752
Marshall Cutoff, LA	448	R	-	-	-	-	-	-	-	5,166[4]
Forest Home Towhead, LA	449	L	1,000	2,260	-	-	-	-	-	4,609
Willow Cutoff, LA	462	R	-	-	-	-	-	-	-	4,275
Point Lookout, LA	478	R	-	-	-	-	-	-	-	2,751
Ajax Bar, MS	482	L	2,350	2,570	-	-	-	-	-	24,339

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TABLE 42-I (Continued) BANK REVETMENTS AND DIKES: VICKSBURG DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction						Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
			New Work			Reinforcement				
			Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]		
MISSISSIPPI RIVER continued										
Dikes:										
Ben Lomond, MS	488	L	-	-	-	-	-	-	-	24,667[4]
Balshed Ldg., MS	493	L	-	-	-	-	-	-	-	8,238
Wilson Point, LA	500	R	-	-	-	-	-	-	-	3,592
Corregidor, MS	505	L	-	-	-	-	-	-	-	6,730
Carolina, AR	509	L	-	-	-	-	-	-	-	2,897
Cracraft Lower, AR	510	R	-	-	-	-	-	-	-	9,614
Cracraft, AR	513	R	-	-	-	-	-	-	-	3,809
Leota, MS	514	L	-	-	-	-	-	-	-	7,571
Island, 86, AR	520	R	-	-	-	-	-	-	-	6,592
Seven Oaks, AR	523	R	-	-	-	-	-	-	-	5,754
Walnut Point, MS	525	L	-	-	-	-	-	-	-	4,725
Refuge, MS	528	L	-	-	-	-	-	-	-	5,278
Island 84, AR	532	L	-	-	-	-	-	-	-	4,580
Leland Bar, AR-MS	538	R	-	-	-	-	-	-	-	14,428
Leland Neck, AR-MS	540	L	-	-	-	-	-	-	-	4,315
Tarpley Cutoff, MS-AR	540	R	5,220	690	-	-	-	-	-	10,320
Island 82-Miller Bend, AR-MS	544	R&L	-	-	-	-	-	-	-	13,646
Ashbrook-Miller Bend, AR-MS	547	L&R	2,230	-	-	-	-	-	-	13,029
Ashbrook Cutoff, MS	549	L	-	-	-	-	-	-	-	8,728
Chicot Ldg., AR	564	R	-	-	-	-	-	-	-	17,451
Catfish Point, MS	571	L	-	-	-	-	-	-	-	5,290
Below Prentiss, MS	580	R	-	-	-	-	-	-	-	7,813
Malone Field, AR	585	R	-	-	-	-	-	-	-	7,549
Terrene, MS	590	L	-	-	-	-	-	-	-	7,921
White River Landing, AR	591	R	-	-	-	-	-	-	-	2,201
Montgomery Towhead, AR	592	R	-	-	-	-	-	-	-	6,071
Victoria Bend, AR	596	R	-	-	-	-	-	-	-	5,033[4]
Smith Point, MS	600	L	-	-	-	-	-	-	-	7,617
Island 70, MS	608	L	-	-	-	-	-	-	-	14,949
Total dikes, Vicksburg District, Mississippi River			16,141 (3.06 Miles)	2,535	-	-	-	-	-	369,805 (70.04 Miles)

ARKANSAS RIVER[5]	Miles Above Mouth									
Standard Revetment:										
Menard Bend, AR	31	L	-	-	-	-	-	-	-	11,770
Como, AR	34	R	-	-	-	-	-	-	-	11,720
Morgan Bend, AR	36	L	-	-	-	-	-	-	-	5,250
Yancopin, AR	24	R	-	-	-	-	-	-	-	2,800
Total standard revetment, Arkansas River			-	-	-	-	-	-	-	31,540 (5.97 Miles)
Dikes										
Hopedale Cutoff, AR	30	R	-	-	-	-	-	-	-	1,848
Morgan Bend, AR	36	L	-	-	-	-	-	-	-	3,658
Fletcher Bend, AR	39	R	-	-	-	-	-	-	-	2,187
Total dikes, Arkansas River										7,693 (1.46 Miles)
LOWER RED RIVER	Below Confluence of Old and Mississippi Rivers									
Standard revetment:										
Long Lake, LA	10	R	-	-	-	-	-	-	-	6,652
Naples, LA	7	R	-	-	-	-	-	-	-	6,190
Turnbill Island, LA	9	L	-	-	-	-	-	-	-	6,815
Total standard revetment			-	-	-	-	-	-	-	19,657 (3.72 Miles)
Dikes:										
None										
RED RIVER[6]										
Standard revetment:[7]										
Dupre, LA	69	R	-	-	-	-	-	-	-	2,690
Bringol, LA	73	R	-	-	-	-	-	-	-	4,000
Egg Bend, LA	75	R	-	-	-	-	-	-	-	2,400
Cologne Bend, LA	77	R	-	-	-	-	-	-	-	650
Roxana, LA	83	R	-	-	-	-	-	-	-	3,325
Ryland, LA	88	R	-	-	-	-	-	-	-	3,925
Whittington, LA	89	R	-	-	-	-	-	-	-	2,900
Smith, LA	91	R	-	-	-	-	-	-	-	2,700
Latanier, LA	93	R	-	-	-	-	-	-	-	2,460
Hudson, LA	99	R	-	-	-	-	-	-	-	1,458
Robert, LA	102	R	-	-	-	-	-	-	-	5,500
Alexandria Front, LA	105	R	-	-	-	-	-	-	-	5,280
Callahan, LA	110	R	-	-	-	-	-	-	-	4,000
Cotton, LA	116	R	-	-	-	-	-	-	-	14,700
Rapides, LA	119	R	-	-	-	-	-	-	-	1,030
Boyce, LA	125	R	-	-	-	-	-	-	-	4,548
Total standard revetment, Red River			-	-	-	-	-	-	-	61,566 (11.66 Miles)

TABLE 42-I (Continued) BANK REVETMENTS AND DIKES: VICKSBURG DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction						Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
			New Work			Reinforcement				
			Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]		
RED RIVER[6] continued										
Dikes[7]:										
Choctaw Bayou Bend, LA	71	R	-	-	-	-	-	-	-	2,000
Bringol (Egg Bend), LA	73	R	-	-	-	-	-	-	-	2,477
Egg Bend, LA	75	R	-	-	-	-	-	-	-	900
Cologne Bend, LA	77	R	-	-	-	-	-	-	-	1,850
Echo, LA	78	R	-	-	-	-	-	-	-	1,900
Richardson, LA	79	R	-	-	-	-	-	-	-	2,700
Alexandria, LA	105	R	-	-	-	-	-	-	(Rock groin)	270
Bertrand, LA	122	R	-	-	-	-	-	-	-	7,630
Total dikes, Red River			-	-	-	-	-	-	-	19,727 (3.74 Miles)

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[1] Gross squares articulated concrete mattress (100 square feet).

[2] Contains 7,814 linear feet of trenchfill revetment (stone).

[3] Linear feet of dike on which repairs were made.

[4] Changed to correct previous errors.

[5] See report on Arkansas River and tributaries, AR and OK, under Little Rock District.

[6] Mileages based on 1967 hydrographic survey.

[7] Includes all types of dikes and retards.

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TABLE 42-J BANK REVETMENTS AND DIKES: MEMPHIS DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction						Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
			New Work			Reinforcement				
			Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]		
MISSISSIPPI RIVER										
Standard revetment:										
Big Island, AR	598	R	-	-	-	-	-	-	-	3,905
Scrubgrass Bend, AR	600	R	-	-	-	-	-	-		7,315
Henrico, AR	606	R	-	-	-	-	-	-	-	25,040
Cessions Towhead, AR	615	L	-	-	-	-	-	-	-	10,615
Knowlton, AR	620	R	-	-	-	-	-	3,412	-	16,900
Island 67, MS	621	L	-	-	-	-	-	-	-	7,625
Island 68 Bar, AR	622	R	-	-	-	-	-	-	-	6,445
Ludlow, AR	626	R	-	-	-	-	-	-	-	10,390
Rescue Landing, AR-MS	629	L	-	-	-	-	-	-	-	27,020
Fair Landing, AR	632	R	1,800	143	4,154	-	-	6,747	-	25,690
Burke Landing, MS	637	L	-	-	-	-	-	-	-	19,070
Island 62, AR	638	R	-	-	-	-	-	-	-	9,030
Island 63, MS	639	L	-	-	-	-	-	-	-	11,454
Island 63 Bar, MS	639	L	-	-	-	-	-	-	-	3,795
Oldtown Bend, AR	644	R	-	-	-	-	-	5,853	-	25,995
Horseshoe, MS	647	L	-	-	-	-	-	-	-	16,385
Westover, AR	650	R	-	-	-	-	-	-	-	12,730
Delta-Friars Point, MS	655	L	-	-	-	-	-	-	-	30,090
Helena, AR	660	R	-	-	-	-	-	-	-	36,460
Trotters Landing, MS	665	L	-	-	-	-	-	-	-	32,905
Flower Lake, MS	667	L	-	-	-	-	-	2,443	-	16,385
St. Francis, AR	672	R	-	-	-	-	-	-	-	24,663
Harbert Point, MS	675	L	-	-	-	-	-	-	-	9,065
Walnut Bend, AR	680	R	-	-	-	-	-	-	-	27,220
Mhoon Bend, MS	685	L	-	-	-	-	-	-	-	35,828
Peters, AR	692	R	-	-	-	-	-	2,188	-	23,675
Commerce, MS	695	L	-	-	-	-	-	-	-	11,615
Porter Lake, AR	700	R	-	-	-	-	-	-	-	34,155
Pickett, MS-AR	703	R	-	-	-	-	-	-	-	12,575
Norfolk-Star, MS	709	L	-	-	-	-	-	3,326	-	35,582
Cow Island Bend, AR	714	R	-	-	-	-	-	-	-	22,274
Cow Island Bend (Upper), TN	716	R	-	-	-	-	-		-	6,853
Coahoma, TN	717	L	-	-	-	-	-	-	-	9,270
Ensley, TN	723	L	-	-	-	-	-	-	-	36,566
Dismal Point, AR	724	R	-	-	-	-	-	-	-	7,200
Bauxippi-Wyanoke, AR	730	R	1,230	-	-	-	-	-	-	24,530
Presidents Island, TN	733	L	-	-	-	-	-	-	-	12,755
Hopefield Point, AR, TN	736	R	-	-	-	-	-	-	-	5,390
Loosahatchie-Memphis, TN	737	L	-	-	-	-	-	-	-	31,293
Loosahatchie Bar, TN	740	R	-	-	-	-	-	-	-	2,070
St. Clair, AR	742	R	-	-	-	-	-	-	-	2,930[2]
Island 40, TN-AR	744	R	-	-	-	-	-	2,312	-	30,750

TABLE 42-J (Continued)

BANK REVETMENTS AND DIKES: MEMPHIS DISTRICT (FISCAL YEAR 1983)

			Operations This FY Construction							
			New Work			Reinforcement				
Location	Above Head of Passes (Miles)	Bank R or L	Extension (Linear Feet)	Lap (Linear Feet)	(Squares)[1]	(Linear Feet)	(Squares)[1]	Maintenance (Squares)[1]	Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
MISSISSIPPI RIVER continued										
Standard Revetment:										
Brandywine, AR-TN	750	R	-	-	-	-	-	-	-	18,010
Shelby Forest, TN	753	L	-	-	-	-	-	-	-	9,550
Dean Island, AR	756	R	-	-	-	-	-	-	-	7,555
Cedar Point-Densford, TN	759	L	-	-	-	-	-	-	-	20,190
Chute of Island 35, TN	764	R	-	-	-	-	-	-	-	29,190
Lookout Bar, TN	772	R	-	-	-	-	-	-	-	2,990[2]
Lookout, TN	774	R	-	-	-	-	-	-	-	5,005
Sunrise Towhead, TN	776	R	-	-	-	-	-	2,226	-	14,615
Lower Bullerton, AR	782	R	-	-	-	-	-	-	-	28,350
Kate Aubrey Towhead-Island 30, TN	786	R	-	-	-	-	-	2,667	-	28,658
Osceola, AR	786	R	-	-	-	-	-	-	-	1,350[3]
Osceola, AR	786	R	-	-	-	-	-	-	-	5,823
Ashport-Keyes Point, TN	791	L	-	-	-	-	-	-	-	44,232
Kate Aubrey, TN	793	R	-	-	-	-	-	-	-	2,500
Island 26, TN	798	R	-	-	-	-	-	-	-	15,690
Bend of Island 25, TN	803	L	-	-	-	-	-	-	-	22,730
Barfield, AR	808	R	-	-	-	-	-	-	-	44,040
Obion-Tamm, TN	819	L	-	-	-	-	-	-	-	49,831
Huffman-Hickman, AR-TN	826	R	-	-	-	-	-	-	-	26,984
Heloise, TN	831	L	-	-	-	-	-	-	-	12,935
Island 18, MO	836	R	-	-	-	-	-	-	-	22,170
Linwood Bend, TN	841	L	-	-	-	-	-	-	-	14,850
Blaker Towhead, TN	845	L	-	-	-	-	-	5,952	-	17,087
Bells Point, MO	845	R	-	-	-	-	-	-	-	5,420
Gayoso-Caruthersville, MO	848	R	-	-	-	-	-	-	-	25,600
Island 15, TN	851	L	-	-	-	-	-	-	-	3,630
Hathaway Landing, TN	852	L	-	-	-	-	-	-	-	1,000
Robinson Bayou, MO	852	R	-	-	-	-	-	-	-	22,630
Fritz Landing, TN	857	L	-	-	-	-	-	3,325	-	15,670
Lee Towhead, MO	859	L	-	-	-	-	-	-	-	8,470
Bend of Island 14, TN	859	L	-	-	-	-	-	-	-	12,050
Above Lee Towhead, TN	861	L	-	-	-	-	-	-	-	4,943
Little Cypress, MO	864	R	-	-	-	-	-	-	-	32,240
Merriwether-Cherokee, TN	869	L	-	-	-	-	-	-	-	41,058
Linda, MO	876	R	-	-	-	-	-	-	-	11,950
Below Toney's Towhead, TN	879	L	-	-	-	-	-	-	-	20,895
New Madrid Bend, MO	886	R	-	-	-	-	-	-	-	30,348
Kentucky Point, KY	887	L	-	-	-	-	-	-	-	7,960
New Madrid Bar, KY	888	R	-	-	-	-	-	-	-	15,375
New Madrid, MO	889	R	-	-	-	-	-	-	-	5,559

La Forge, MO	892	R	-	-	-	-	-	-	-	20,680
Slough Landing Neck, TN-KY	899	L	-	-	-	-	-	-	-	32,940
Winchester Towhead, MO	900	R	-	-	-	-	-	-	-	5,540
Island 9, KY-TN	905	L	-	-	-	-	-	-	-	33,585[4]
Milton Bell, MO	908	R	-	-	-	-	-	-	-	14,375
Chute of Island 8, KY	913	L	-	-	-	-	-	-	-	12,620
Bend of Island 8, MO	914	R	-	-	-	-	-	-	-	9,800
Island 8, KY	914	R	-	-	-	-	-	-	-	13,175
Hickman-Reelfoot, KY	919	L	-	-	-	-	-	-	-	41,909
Beckwith Bend, MO	924	R	-	-	-	-	-	-	-	14,588
Williams, KY	927	L	-	-	-	-	-	-	-	10,015
Wolf Island, KY	934	R	-	-	-	-	-	-	-	19,205
Columbus, KY	937	L	-	-	-	-	-	-	-	3,825
Belmont, MO	938	R	-	-	-	-	-	-	-	5,785
Island 3 and 4, KY	940	R	-	-	-	-	-	-	-	19,970
Campbell, KY	943	L	-	-	-	-	-	-	-	6,865
Pritchard, MO	948	R	-	-	-	-	-	2,003	-	15,045
Mayfield Creek, KY	949	L	-	-	-	-	-	-	-	5,935
Wickliffe, KY	953	L	-	-	-	-	-	-	-	8,455
Cache-Cairo, IL (Ohio River)	958	R	-	-	-	-	-	-	-	26,152
Total revetment, Memphis District Mississippi River			3,030	143	4,154	0	0	42,454	0	1,791,100 (339.2 Miles)
Dikes:						(5)		(6)		
Henrico, AR	603	R	-	-	-	-	-	-	-	6,310
Below Knowlton, AR	616	R	-	-	-	-	-	-	-	10,233
Island 67, MS	621	L	-	-	-	-	-	-	-	4,320
Below Ludlow, AR	624	R	-	-	-	-	-	-	-	5,040
Sunflower, AR	627	L	-	-	-	-	-	-	-	5,520
Island 64, AR	630	R	-	-	-	-	-	-	-	7,330
Island 62, AR	638	R	-	-	-	-	-	-	-	23,180
Island 63 Bar, MS	639	L	-	-	-	-	-	-	-	2,600
Island 63, MS	640	L	-	-	-	-	-	-	-	5,640
Kangaroo Point, AR	649	R	-	-	-	-	-	-	-	5,730
Friars Point, MS	652	L	-	-	-	-	-	-	-	6,870
Montezuma Bar, MS	657	L	-	-	-	-	-	4,700	-	12,430
Montezuma Towhead, AR	656	R	-	-	-	-	-	-	-	3,450
Prairie Point, AR	668	R	-	-	-	-	-	-	235	10,101
St. Francis Towhead, MS	671	L	-	-	-	-	-	-	-	3,380
Below Walnut Bend, AR	676	R	-	-	-	-	-	-	-	6,420
Bordeaux Point, MS	681	L	-	-	-	-	-	-	-	4,920
Commerce, MS	694	L	-	-	-	-	-	-	-	5,700
Basket Bar, AR	696	R	-	-	-	-	-	-	-	5,060
Buck Island, MS	700	L	-	-	-	-	-	-	-	4,890
Porter Lake, AR	701	R	-	-	-	-	-	-	-	7,930
Pickett, MS	704	L	-	-	-	-	-	-	-	7,180
Seyppel, AR	706	R	-	-	-	-	-	-	-	11,640
Cat Island, AR	710	R	-	-	-	-	-	-	-	15,590
Coahoma, TN	718	L	-	-	-	-	-	-	-	4,640
Armstrong, AR-TN	720	R	-	-	-	-	-	-	-	18,690
Dismal Point, AR	724	R	-	-	-	-	-	-	-	22,170
Hopefield Point, AR	736	R	-	-	-	-	-	-	-	1,330

TABLE 42-J (Continued)

BANK REVETMENTS AND DIKES: MEMPHIS DISTRICT (FISCAL YEAR 1983)

Location	Above Head of Passes (Miles)	Bank R or L	Operations This FY Construction: New Work: Extension (Linear Feet)	Operations This FY Construction: New Work: Lap (Linear Feet)	Operations This FY Construction: New Work: (Squares)[1]	Operations This FY Construction: Reinforcement: (Linear Feet)	Operations This FY Construction: Reinforcement: (Squares)[1]	Operations This FY Construction: Reinforcement: Maintenance (Squares)[1]	Nonoperative Since Prior FY (Linear Feet)	Operative Thru This FY (Linear Feet)
MISSISSIPPI RIVER continued										
Dikes:										
Robinson Crusoe, TN	738	R	-	-	-	-	-	40	-	21,939[7]
Loosahatchie Bar, TN	739	R	-	-	-	-	-	-	-	3,950
Above Loosahatchie, TN	742	L	-	-	-	-	-	-	-	8,900
Redman Point, AR	743	R	-	-	-	-	-	850	-	7,750
Randolph Point, TN	747	L	-	-	-	-	-	-	-	16,740
Poker Point, AR	748	R	-	-	-	-	-	-	-	8,050
Corona Bar, TN-AR	755	R	-	-	-	-	-	-	-	8,430
Densford, TN	757	L	-	-	-	-	-	2,000	-	7,780
Cedar Point, TN	759	L	-	-	-	-	-	-	-	2,890
Below Richardson Landing, TN	767	L	-	-	-	-	-	-	-	5,950
Lookout, TN-AR	771	R	-	-	-	-	-	-	-	5,538
Plum Point, TN	784	L	2,050	-	-	-	-	-	-	7,910
Kate Aubrey, TN	791	R	-	-	-	-	-	-	-	11,270
Keyes Point, TN	791	L	5,610	-	-	-	-	-	-	19,755
Ashport-Goldust, TN-AR	795	R	-	-	-	-	-	-	-	17,330
Forked Deer, TN	798	L	-	-	-	-	-	-	-	8,550
Island 25, AR	804	R	-	-	-	-	-	800	-	5,450
Nebraska Point, TN	808	L	-	-	-	-	-	3,000	-	12,149
Below Tamm Bend, TN	813	L	-	-	-	-	-	-	-	8,300
Wrights Point, AR	820	R	-	-	-	-	-	-	-	30,505
Island 21, Chute, TN	824	L	-	-	-	-	-	-	-	3,170
Head of Island 21, TN	828	L	-	-	-	-	-	1,180	-	5,460
Island 20, MO-TN	831	R	-	-	-	-	-	-	-	18,139
Island 18, TN	837	L	-	-	-	-	-	-	-	5,395
Tennemo, TN	842	L	-	-	-	-	-	-	-	2,505
Caruthersville-Linwood Bend, MO	844	R	-	-	-	-	-	1,000	-	25,877
Sandy Hook, TN	850	R	-	-	-	-	-	-	-	2,350
Island 15, TN	851	L	-	-	-	-	-	125	-	7,016
Robinson Bayou, MO	853	R	-	-	-	-	-	1,200	-	9,890
Hathaway, TN	854	L	-	-	-	-	-	-	-	15,620
Island 15 Neck, TN	854	L	-	-	-	-	-	8,900	-	21,100
Above Lee Towhead, TN	859	L	-	-	-	-	-	-	-	1,300
Below Cherokee, TN	866	L	-	-	-	-	-	-	-	6,230
Stewart Towhead, MO	871	R	-	-	-	-	-	-	-	18,290
Ruddles Point, MO	874	R	-	-	-	-	-	-	-	8,130
Kentucky Point, KY	887	L	-	-	-	-	-	-	-	11,550
Morrison Towhead, MO	890	R	-	-	-	-	-	-	-	1,070

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Below Island 9, TN	901	L	12,582	-	-	-	-	-	-	12,582
Donaldson Point, MO	905	R	-	-	-	-	-	-	-	8,320
Island 9, KY	906	L	-	-	-	-	-	-	-	7,010[9]
Campbell, KY	942	L	-	-	-	-	-	-	-	2,610
Pritchard, MO	944	R	-	-	-	-	-	-	-	9,390
Island 1, KY	948	L	-	-	-	-	-	-	-	15,260
Total dikes, Memphis District, Mississippi River			20,242 (3.8 Miles)	-	-	-	-	23,795	-	665,784 (126.1 Miles)

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1. Gross squares—articulated concrete mattress (100 square feet).
2. Lumber mattress revetment
3. Rock groins.
4. Stone in pile dike.
5. Linear feet of dike on which repairs were made.
6. Linear feet of triangular frame retards and pile dikes.

TABLE 42-K PROJECT LEVEES: NEW ORLEANS DISTRICT (FISCAL YEAR 1983)

Location	Levees and Floodwalls (Miles)		Built to Approved Grade and Section		Berms (Miles)			Surfaced Roads on Levees (Miles)		
	Authorized for System	Total In Place This FY	This FY	Total Thru This FY	In System When Completed[1]	Built This FY	Complete This FY	In System When Completed	Built This FY	Total Complete Thru This FY
MISSISSIPPI RIVER										
Fifth Louisiana Levee District	(16.8)	(16.8)	(2.3)	(9.6)	(-)	(-)	(-)	(15.5)	(-)	(15.5)
Levees	15.5	15.5	2.3	8.3	-	-	-	15.5	-	15.5
Floodwalls	-	-	-	-	-	-	-	-	-	-
Old River structures and levees	1.3	1.3	-	1.3	-	-	-	-	-	-
Atchafalaya Basin Levee District	(126.3)	(126.3)	(9.3)	(85.4)	(5.3)	(-)	(1.0)	(118.7)	(-)	(118.7)
Levees	118.7	118.7	9.3	77.8	5.3	-	1.0	118.7	-	118.7
Floodwalls		-	-	-	-	-	-	-	-	-
Morganza structure and levee	0.8	0.8	-	0.8	-	-	-	-	-	-
Morganza forebay levee	6.7	6.7	-	6.7	-	-	-	-	-	-
Port Allen lock	0.1	0.1	-	0.1	-	-	-	-	-	-
Lafourche Basin Levee District	(61.7)	(61.7)	(-)	(24.1)	(0.1)	(-)	(0.1)	(61.7)	(-)	(61.7)
Levees	61.7	61.7	-	24.1	0.1	-	0.1	61.7	-	61.7
Plaquemines West Levee District	(37.9)	(37.9)	(3.0)	(25.8)	(-)	(-)	(-)	(37.9)	(-)	(37.9)
Levees	37.9	37.9	3.0	25.8	-	-	-	37.9	-	37.9
Floodwalls	-	-	-	-	-	-	-	-	-	-
Buras Levee District	(34.1)	(34.1)	(-)	(19.7)	(-)	(-)	(-)	(34.0)	(-)	(34.0)
Levees	34.0	34.0	-	19.7	-	-	-	34.0	-	34.0
Floodwalls	-	-	-	-	-	-	-	-	-	-
Empire lock	0.1	0.1	-	-	-	-	-	-	-	-
Baton Rouge front levees	(2.1)	(2.1)	(-)	(0.9)	(-)	(-)	(-)	(2.1)	(-)	(2.1)
Pontchartrain Levee District	(124.9)	(124.9)	(-)	(81.9)	(4.7)	(-)	(-)	(110.8)	(-)	(110.8)
Levees	110.8	110.8	-	67.8	4.7	-	-	110.8	-	110.8
Floodwalls	-	-	-	-	-	-	-	-	-	-
Bonnet Carré guide levees	11.3	11.3	-	11.3	-	-	-	-	-	-
Bonnet Carré forebay levee	1.3	1.3	-	1.3	-	-	-	-	-	-
Bonnet Carré structure	1.5	1.5	-	1.5	-	-	-	-	-	-
East Jefferson Levee District	(11.6)	(11.6)	(-)	(8.8)	(-)	(-)	(-)	(11.6)	(-)	(11.6)
Levees	11.6	11.6	-	8.8	-	-	-	11.6	-	11.6
Floodwalls	-	-	-	-	-	-	-	-	-	-
West Jefferson Levee District	(20.0)	(20.0)	(-)	(4.5)	(-)	(-)	(-)	(19.9)	(-)	(19.9)
Levees	19.8	19.8	-	4.3	-	-	-	19.8	-	19.8
Floodwalls	0.1	0.1	-	0.1	-	-	-	0.1	-	0.1
Harvey Canal Lock	0.1	0.1	-	0.1	-	-	-	-	-	-
Orleans Levee District	(27.2)	(27.2)	(0.1)	(16.5)	(-)	(-)	(-)	(18.4)	(-)	(18.4)
Left descending, east bank										
Levees	4.6	4.6	-	2.3	-	-	-	4.6	-	4.6
Floodwalls	8.6	8.6	-	2.3	-	-	-	-	-	-
IHNC lock	0.1	0.1	-	0.1	-	-	-	-	-	-

Right descending, west bank										
Levees	13.8	13.8	0.1	11.7	-	-	-	13.8	-	13.8
Floodwalls	-	-	-	-	-	-	-	-	-	-
Algiers Canal lock	0.1	0.1	-	0.1	-	-	-	-	-	-
Lake Borgne Basin Levee District	(11.6)	(11.6)	(-)	(10.8)	(-)	(-)	(-)	(11.6)	(-)	(11.6)
Levees	11.6	11.6	-	10.8	-	-	-	11.6	-	11.6
Floodwalls	-	-	-	-	-	-	-	-	-	-
Grand Prairie Levee District	(37.4)	(37.4)	(-)	(19.0)	(-)	(-)	(-)	(37.4)	(-)	(37.4)
Levees	37.4	37.4	-	19.0	-	-	-	37.4	-	37.4
Floodwalls	-	-	-	-	-	-	-	-	-	-
Total Mississippi River	511.6	511.6	14.7	307.0[2]	10.1	-	1.1	479.6	-	479.6
ATCHAFALAYA BASIN FLOODWAY										
Atchafalaya River and Bayou des Glaises	(148.4)	(148.4)	(-)	(143.9)	(-)	(-)	(-)	(148.4)	(-)	(43.9)
East bank Atchafalaya River	52.5	52.5	-	52.5	-	-	-	52.5	-	20.2
Bayou des Glaises	7.9	7.9	-	7.9	-	-	-	7.9	-	-
West bank Atchafalaya River	60.1	60.1	-	55.6	-	-	-	60.1	-	12.0
Simmesport Ring	1.6	1.6	-	1.6	-	-	-	1.6	-	-
Melville Ring	4.1	4.1	-	4.1	-	-	-	4.1	-	-
Krotz Springs Ring	1.7	1.7	-	1.7	-	-	-	1.7	-	-
Mansura Hills to Hamburg	20.5	20.5	-	20.5	-	-	-	20.5	-	11.7
West protection levee, Hamburg to Berwick drainage canal via Calumet	(128.7)	(128.7)	(-)	(66.3)	(-)	(-)	(-)	(127.7)	(-)	(66.3)
Levees west of Berwick, Berwick drainage canal to Charenton drainage canal	(56.5)	(56.5)	(-)	(9.6)	(-)	(-)	(-)	(56.5)	(-)	(-)
Morganza upper guide levee	(8.9)	(8.9)	(-)	(8.9)	(-)	(-)	(-)	(8.9)	(-)	(8.9)
East protection levee, Morganza to Cutoff Bayou, including 19.5 miles of Morganza lower guide levee	(106.7)	(106.7)	(-)	(28.8)	(-)	(-)	(-)	(105.0)	(-)	(28.8)
Total Atchafalaya Basin and Floodway	449.2	449.2	-	257.5	-	-	-	446.5	-	147.9
Total—Main Stem System	960.8	960.8	14.7	564.5	10.1	-	1.1	926.1	-	627.5
LAKE PONTCHARTRAIN, LA										
Lake Pontchartrain, LA	(17.4)	(17.4)	(-)	(17.4)	(-)	(-)	(-)	(17.4)	(-)	(17.4)
Item A levees	5.0	5.0	-	5.0	-	-	-	5.0	-	5.0
Item B levees	10.1	10.1	-	10.1	-	-	-	10.1	-	10.1
Item C levees	2.3	2.3	-	2.3	-	-	-	2.3	-	2.3
Total	17.4	17.4	-	17.4	-	-	-	17.4	-	17.4

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1. Figures indicate landside seepage berms only.

2. Completed 14.7 miles in FY 83 minus 28.3 miles of previously constructed levees that have settled below design grade.

3. Reflects results of flowline reanalysis.

TABLE 42-L

PROJECT LEVEES: VICKSBURG DISTRICT (FISCAL YEAR 1983)

Location	Levees and Floodwalls (Miles)				Berms (Miles)[1]			Surfaced Roads on Levees (Miles)		
			Built to Approved Grade and Section							
	Authorized for System	Total In Place This FY	This FY	Total Thru This FY[2]	In System When Completed[3]	Built This FY[4]	Complete This FY	In System When Completed	Built This FY	Total Complete Thru This FY
MISSISSIPPI RIVER										
East bank in Mississippi	178.3[5]	178.3	-	109.1	158.9	-	108.1	168.4	-	168.4
Greenville Harbor dikes	7.8	7.8	-	7.8	-	-	-	-	-	-
West bank in Arkansas	75.6	75.6	-	42.9	51.1	-	46.4	75.4	-	75.4
West bank in Louisiana (above Red River)	198.7	198.7	4.5	67.1	88.7	1.3	67.3	197.8	-	197.8
Total Mississippi River	460.4	460.4	4.5	226.9	298.7	1.3	221.8	442.5	-	442.5
YAZOO RIVER BASIN										
Headwater	620.7[6]	305.1	(-)	130.1	-	-	-	620.7	(-)	281.5
Backwater	96.6	44.6	-	0.0	-	-	-	96.6	-	39.0
Total Yazoo River Basin	717.3	349.7	(-)	130.1	-	-	-	717.3	(-)	320.5
ARKANSAS RIVER, ARKANSAS										
North bank	61.5[7]	56.2	-	56.2	8.3	-	8.3	47.4	-	47.4
South bank	85.4	85.4	-	85.4	24.7	-	24.7	84.1	-	81.1
Total Arkansas River	146.9	141.6	-	141.6	33.0	-	33.0	131.5	-	128.5
RED RIVER BACKWATER LEVEES										
Total Red River backwater	263.6	156.5	-	81.3[8]	-	-	-	249.0	-	141.9
LOWER RED RIVER—SOUTH BANK RED RIVER										
Lower Red River—South Bank Red River levees	(59.2)	(59.2)	(-)	(49.2)	(-)	(-)	(-)	(59.2)	(-)	(42.8)
Hotwells to Moncla, LA, levees	59.2	59.2	-	49.2[9]	-	-	-	59.2	-	42.8
Floodwalls	-	-	-	-	-	-	-	-	-	-
Total Lower Red River	59.2	59.2	-	49.2	-	-	-	59.2	-	42.8

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[1] This tabulation does not include riverside berms which are considered an integral part of the levee section. Riverside berms will be constructed along with levee enlargements or seepage berm contracts.

[2] Levee that has adequate freeboard based on the refined 1973 MR&T project flood flow line for the Mississippi River. Levees with more than 2 feet of freeboard are considered adequate.

[3] Subject to change as planning progresses. Does not include existing berms which need restudy.

[4] Based on refined 1973 MR&T project flood flow line.

[5] Includes 1.4 miles of concrete floodwall and 0.3 mile of levee on Vicksburg city front.

[6] Includes 33.1 miles of local protection works; 61.3 miles along Whittington Auxiliary Channel; 210 miles in Upper Yazoo Projects; 156.1 miles along main stem; and 160.2 miles on tributaries.

[7] Includes 5.3 miles for Gillett new levee.

[8] Revised to reflect 1973 project design flow line.

[9] Reflects results of flowline reanalysis.

TABLE 42-M

PROJECT LEVEES: MEMPHIS DISTRICT (FISCAL YEAR 1983)

Location	Levees and Floodwalls (Miles)				Berms (Miles)[1]			Surfaced Roads on Levees (Miles)		
			Built to Approved Grade and Section							
	Authorized for System	Total In Place This FY	This FY	Total Thru This FY	In System When Completed[1]	Built This FY	Complete This FY	In System When Completed	Built This FY	Total Complete Thru This FY
MISSISSIPPI RIVER										
Mounds, IL	3.9	3.9	-	3.9	0.3	-	-	3.6	-	3.6
Mound City, IL	2.7	2.7	-	2.7	2.7	-	-	1.1	-	1.1
Cairo Drainage District	13.8[2]	13.8	-	13.8	7.8	-	-	8.5	-	8.5
City of Cairo	6.2	6.2	-	6.2	2.9	-	0.9	4.0	-	3.5
Little River Drainage District	19.3	19.3	-	19.3	8.0	-	2.4	19.3	-	19.3
Levee District No. 2, Scott County, MO	13.8	13.8	-	13.8	4.2	-	-	13.8	-	13.8
Levee District No. 3, Mississippi County, MO	26.0	26.0	-	26.0	4.9	-	3.2	26.0	-	26.0
St. Johns Leveee and Drainage District	58.7[3]	58.7	-	58.2	42.7	-	-	46.6	-	46.1
St. Francis Levee District of MO	55.7	55.7	-	55.7	10.6	-	10.4	55.1	-	55.1
City of Hickman, KY	1.4	1.4	-	1.4	-	-	-	0.5	-	-
Fulton County Levee District of Fulton County, KY	16.7	16.7	-	16.7[4]	16.3	-	10.6	16.3	-	16.3
Reelfoot Levee District of Lake and Obion Counties, TN	4.5	4.5	-	4.5[4]	0.6	-	0.3	4.5	-	4.3
Madrid Bend Levee District	9.6	9.6	-	9.6[4]	-	-	-	9.6	-	9.6
Lake County Levee and Drainage District	15.9	15.9	-	15.9	7.3	-	4.5	15.9	-	15.9
Dyer County Levee and Drainage District No. 1	21.3	21.3	-	21.3	13.0	-	-	21.3	-	21.3
Tipton-Obion levee extension	6.5	-	-	-	-	-	-	6.5	-	-
St. Francis Levee District of AR	156.7	156.7	-	153.2[4]	94.6	-	79.9	156.7	-	156.7
Helena Improvement District No. 1	5.3	5.3	-	5.3	2.4	-	2.4	4.7	-	4.2
Cotton Belt Levee District No. 1	23.9	23.9	-	23.9	13.4	-	13.4	23.9	-	23.9
Laconia Drainage and Levee District Phillips County, AR	20.5	20.5	-	20.5	8.4	-	8.4	20.5	-	20.5
Laconia Levee District No. 1 of Desha County, AR	18.1	18.1	-	18.1[4]	12.1	-	10.6	16.5	-	16.5
Laconia Circle Special Drainage District of Desha County, AR	6.6	6.6	-	6.6[4]	-	-	-	-	-	-
Yazoo-Mississippi Delta Levee District	93.6	93.6	-	93.6	85.7	-	85.7	93.6	-	93.6
New Madrid, MO, St. Johns Levee and Drainage District	0.3	-	-	-	0.3	-	-	0.3	-	-

TABLE 42-M (Continued)

PROJECT LEVEES: MEMPHIS DISTRICT (FISCAL YEAR 1983)

Location	Levees and Floodwalls (Miles)				Berms (Miles)[1]			Surfaced Roads on Levees (Miles)		
			Built to Approved Grade and Section							
	Authorized for System	Total In Place This FY	This FY	Total Thru This FY	In System When Completed[1]	Built This FY	Complete This FY	In System When Completed	Built This FY	Total Complete Thru This FY
MISSISSIPPI RIVER—continued										
Birds Point-New Madrid setback levee	35.3	35.3	-	35.3	35.3	-	-	35.3	-	35.3
Total Mississippi River	636.3	629.5	-	625.5	373.5	-	232.7	604.1	-	595.1
ST. FRANCIS RIVER										
East bank	159.5	156.2	-	156.2	-	-	-	156.7	-	81.7
West bank	148.7	146.7	-	146.7	-	-	-	144.3	-	38.8
Total St. Francis River	308.2	302.9	-	302.9	-	-	-	301.0	-	120.5
LITTLE RIVER										
East bank (left)	40.7	40.7	-	40.7	-	-	-	40.7	-	13.1
West bank	35.1	35.1	-	35.1	-	-	-	35.1	-	23.7
Elk Chute	39.9	39.9	-	39.9	-	-	-	39.7	-	17.3
West Basin and middle valley	14.4	14.4	-	14.4	-	-	-	13.4	-	13.4
Total Little River	130.1	130.1	-	130.1	-	-	-	128.9	-	67.5
LOWER WHITE RIVER										
White River backwater levee	40.2	40.2	-	40.2	-	-	-	38.8	-	38.8
Augusta to Clarendon	49.2	39.5	-	39.5	-	-	-	49.2	-	36.2
Clarendon levee	6.2	6.2	-	4.4	-	-	-	-	-	-
Total Lower White River	95.6	85.9	-	84.1	-	-	-	88.0	-	75.0
MEMPHIS HARBOR										
Memphis Harbor	10.5	10.5	-	10.5	7.0	-	1.5	10.5	-	10.5

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1. Subject to change as planning progresses.
2. Includes 5.1 miles of Cache River levee. This levee was enlarged to 1928 grades with Federal funds, but since that time has been classified as a secondary levee.
3. Includes 12.1 miles of Farrenburg levee. This levee was enlarged to 1928 grades with Federal funds, but since that time has been classified as a secondary levee.
4. Shown complete. Authority MSRC-ED-TL (MD 19 Mar. 80) 1st Ind. 21 Apr. 80.

TABLE 42-N

RECAPITULATION
PROJECT LEVEE TABLES 42-K, -L, AND -M
(FISCAL YEAR 1983)

Location	Levees and Floodwalls (Miles)				Berms (Miles)			Surfaced Roads on Levees (Miles)		
			Built to Approved Grade and Section							
	Authorized for System	Total In Place This FY	This FY	Total Thru This FY	In System When Completed	Built This FY	Complete This FY	In System When Completed	Built This FY	Total Complete Thru This FY
MISSISSIPPI RIVER—MAIN STEM										
New Orleans District, Table 42-K	511.6	511.6	14.7	307.0	10.1	(-)	1.1	479.6	-	479.6
Vicksburg District, Table 42-L	460.4	460.4	4.5	226.9	298.7	1.3	221.8	442.5	-	442.5
Memphis District, Table 42-M	636.3	629.5	-	625.5	373.5	-	232.7	604.1	-	595.1
Subtotal—Main Stem	1,608.3	1,601.5	19.2	1,159.4	682.3	1.3	455.6	1,526.2	-	1,517.2
TRIBUTARIES (OFF MAIN STEM) INCLUDED IN MR&T SYSTEM										
Atchafalaya Basin Floodway—NOD	449.2	449.2	-	257.5	-	-	-	446.5	-	147.9
Lower Red River-South Bank—VXD	59.2	59.2	-	49.2	-	-	-	59.2	(-)	42.8
Arkansas River-South Bank—VXD	85.4	85.4	-	85.4	24.7	-	24.7	84.1	-	81.1
Subtotal—Tribs. in MR&T System	593.8	593.8	-	392.1	24.7	-	24.7	589.8	-	271.8
Total in MR&T System	2,202.1	2,195.3	19.2	1,551.5	707.0	1.3	480.3	2,116.0	-	1,789.0
OTHER TRIBUTARIES IN MR&T PROJECT										
Lake Pontchartrain, LA,—NOD	17.4	17.4	-	17.4	-	-	-	17.4	-	17.4
Yazoo River Basin—VXD	717.3	349.7	(-)	130.1	-	-	-	717.3	(-)	320.5
Arkansas River-North Bank—VXD	61.5	56.2	-	56.2	8.3	-	8.3	47.4	-	47.4
Red River Backwater—VXD	263.6	156.5	-	81.3	-	-	-	249.0	-	141.9
St. Francis River—MD	308.2	302.9	-	302.9	-	-	-	301.0	-	120.5
Little River—MD	130.1	130.1	-	130.1	-	-	-	128.9	-	67.5
Lower White River—MD	95.6	85.9	-	84.1	-	-	-	88.0	-	75.0
Memphis Harbor—MD	10.5	10.5	-	10.5	7.0	-	1.5	10.5	-	10.5
Subtotal—Other Tribs. in MR&T Project	1,604.2	1,109.2	(-)	812.6	15.3	-	9.8	1,559.5	(-)	805.7
Grand Total in Project	3,806.3	3,304.5	19.2	2,364.1	722.3	1.3	490.1	3,675.5	-	2,594.7

TABLE 42-O CHANNEL IMPROVEMENTS: NEW ORLEANS DISTRICT (FISCAL YEAR 1983)

Location	Year Initiated	In System When Completed	Built This FY	Total Complete Thru This FY	Percent Complete
			(Miles)		
Bayou des Glaise diversion channel	1938	6.0	-	6.0	100
Bayous Rapides, Boeuf, and Cocodrie	1946	92.6	-	63.4	75
Charenton drainage and navigation canal	1939	6.3	-	6.3	100
Wax Lake Outlet	1938	15.7	-	15.7	100
Atchafalaya Basin Floodway	1933	244.2	-	186.4	49
Morganza Floodway	1941	3.3	-	3.3	100
Old River outflow channel	1956	8.3	-	7.4	89
Old River inflow channel	1960	2.3	-	0.4	17
Old River lock approach channels	1961	2.2	-	2.2	100
Baton Rouge Harbor (Devils Swamp)	1958	2.5	-	2.5	100
Eastern Rapides-S.C. Avoyelles	-	83.5	-	-	-
Teche-Vermillion Water Supply	-	6.3	-	6.3	100

TABLE 42-P CHANNEL IMPROVEMENTS: VICKSBURG DISTRICT (FISCAL YEAR 1983)

Location	Year Initiated	In System When Completed	Built This FY	Total Complete Thru This FY	Percent Complete
		(Miles)			
BIG SUNFLOWER RIVER, ETC., MS					
Big Sunflower River	1947	199.1	-	199.1	100
Quiver River	1947	69.6	-	69.6	100
Deer Creek	1947	7.0	-	7.0	100
Steele Bayou	1947	54.9	-	54.9	100
Steele Bayou[1]	1965	71.2	-	51.6	50
Main Canal	1959	21.1	-	21.1	100
Main Canal[2]	-	22.2	-	-	-
Black Bayou	-	36.5	-	-	-
Big Sunflower River tributaries	1957	227.2	-	227.2	100
Quiver River tributaries	1960	35.4	-	35.4	100
YAZOO BACKWATER					
Yazoo Backwater	1960	39.9	-	39.9	100
YAZOO BASIN HEADWATER, MS					
Upper Yazoo Project	1976	179.0	-	40.3	22
Coldwater River	1941	54.6	-	54.6	100
Arkabutla Canal	1948	0.4	-	0.4	100
Tallahatchie Canal	1940	74.8	-	73.5	85
Little Tallahatchie River and Panola-Quitman Floodway	1939	48.0	-	48.0	100
Greenwood protection works	1971	2.9	-	2.9	100
Yacona River	1952	1.8	-	1.8	100
Bobo Bayou	1944	16.1	-	16.1	100
Cassidy Bayou	1934	69.0	-	69.0	100
Cassidy Bayou[3]	-	26.0	-	-	-
Bear Creek Diversion	-	4.8	-	-	-
Lake Cormorant	-	20.9	-	-	-
Hurricane Bayou	-	2.5	-	-	-
Opossum Bayou	-	20.8	-	-	-
Abaica Creek	-	7.7	-	-	-
Chicopa Creek	-	7.0	-	-	-
Bear Creek	-	23.3	-	-	-
Rocky Bayou	-	7.8	-	-	-
Whiteoak Bayou	-	55.9	-	-	
Miscellaneous diteches	-	12.3	-	-	-
Yalobusha River	1939	46.0	-	46.0	100
Yazoo River	1940	160.2	-	160.2	100
Whittington Auxiliary Chanel	1956	30.8	-	30.8	100
Tchula Lake	1964	26.4	-	26.4	100
David-Burrell Bayou	1957	40.4	-	40.4	100
McKinney Bayou	1960	3.5	-	3.5	100
Hillside Floodway	1964	11.0	-	11.0	100
Yazoo City protection works	1953	1.6	-	1.6	100
Ascalmore-Tippo Bayous	1975	29.8	-	15.1	50
Alligator-Catfish Bayou	1973	8.3	-	8.2	99
Pelucia Creek	1975	6.4	-	2.9	25
BOEUF & TENSAS RIVERS, ETC., LA AND AR					
Bayou Lafourche	1949	45.3	-	45.3	100
Bayou Lafourche[4]	1972	43.0	-	4.4	10
Big & Colewa Creeks	1947	81.4	-	81.4	100

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TABLE 42-P CHANNEL IMPROVEMENTS: VICKSBURG DISTRICT (Continued) (FISCAL YEAR 1983)

Location	Year Initiated	In System When Completed	Built This FY	Total Complete Thru This FY	Percent Complete
			(Miles)		
BOEUF & TENSAS RIVERS, ETC., LA AND AR—continued					
Big & Colewa Creeks	1965	86.8	-	51.5	60
Tensas River	1947	96.5	-	06.5	100
Tensas River[6]	1968	160.0	-	61.0	38
Boeuf River, AR and LA	1953	103.9	-	103.9	100
Fleschmans Bayou, AR	1963	6.6	-	6.6	100
Caney Bayou, AR	1964	7.4	-	7.4	100
Canal 18, AR	1963	10.3	-	10.3	100
Big Bayou, AR	1952	33.3	-	33.3	100
Black Pond Slough, AR	1962	14.3	-	14.3	100
Bayou Macon, AR and LA	1959	150.8	-	150.8	100
Rush Bayou, AR	1964	6.7	-	6.7	100
Canal 19, AR	1957	50.2	-	50.2	100
Canal 43, AR	1956	34.5	-	34.5	100
Canal 81, AR	1957	32.7	-	22.7	100
Mill Bayou-Bayou Vidal	-	15.0	-	-	-
Kirsch Lake Canal	-	9.3	-	-	-
Canal 19 Extension	1964	9.4	-	9.4	100
Lake Chicot Pumping Plant	-	2.5	-	-	-
RED RIVER BACKWATER, LA					
Tensas-Cocodrie Pumping Plant	1976	6.9	-	6.0	85
Six Mile Bayou, LA	-	1.5	-	-	-
GRAND PRAIRIE, AR	-	338.1	-	-	-
BAYOU METO, AR	-	164.9	-	-	-

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1. Includes further work on 54.9 miles and adds 16.3 miles of channel to the project.
2. Includes further work on 21.1 miles and adds 1.1 miles of channel to the project.
3. Includes further work on 26.0 miles.
4. Includes further work on 38.6 miles and adds 4.4 miles of channel to the project.
5. Includes further work on 75.3 miles and adds 11.5 miles of channel to the project.
6. Includes further work on 96.5 miles and adds 63.5 additional miles of channel to the project.

TABLE 42-Q CHANNEL IMPROVEMENTS: MEMPHIS DISTRICT (FISCAL YEAR 1983)

Location	Year Initiated	In System When Completed	Built This FY	Total Complete Thru This FY	Percent Complete
		(Miles)			
BIRDS POINT-NEW MADRID FLOODWAY					
Birds Point-New Madrid Intercepting Ditch Enlargement, Samos and Vicinity, MO	1952	9.6	-	9.5	100
ST. FRANCIS BASIN					
Little River Drainage, MO.	1963	291.3	16.6	233.6	80
St. Francis River, MO and AR	1953	602.7	10.1	363.9	60
West Memphis Drainage, AR	1951	19.8	-	19.8	100
Big Slough and Mayo Ditch, AR	1960	28.0	-	28.0	100
Tyronza River, AR	1939	12.7	-	12.7	100
L'Anguille River, AR	(1)	112.0	-	-	-
LOWER WHITE RIVER BASIN, AR					
Cache River Basin, AR	1972	231.5	-	7.2	3
Big Creek and tributaries, AR	(1)	103.8	-	-	-
WEST KENTUCKY TRIBUTARIES					
Obion Creek, KY	(1)	41.7	-	-	-
WEST TENNESSEE TRIBUTARIES					
MS River, Western TN tributaries (Backwater Areas) (1946 Act)	1952	34.3	-	34.3	100
Obion River Diversion Channel, TN (1946 Act)	(1)	9.3	-	-	-
Reelfoot Lake-Lake No. 9, KY and TN	1974	15.8	-	3.0	19
Running Reelfoot Bayou, TN	1955	19.7	-	19.7	100
MS River Below Cape Girardeau; West TN tributaries, (1948 Act)	1961	225.0	-	84.8	38
Wolf River and tributaries, TN	1960	25.5	-	25.5	100

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1. Not started.

TABLE 42-R COSTS DURING FISCAL YEAR 1983

Item	Construction	Maintenance	Other
FEDERAL FUNDS			
Flood control, Mississippi River and tributaries:			
St. Louis District:			
General investigations	$ --	$ --	$ --
Advance engineering and design	--	--	--
St. Francis Basin-Wappapello Lake	--	2,252,989	--
Subtotal		2,252,989	
Memphis District:			
General investigations	--	--	1,702,330
Advance engineering and design	611	--	--
Mississippi River levees	3,384,235	2,353,783	--
St. Francis Basin	6,953,760	4,733,835	--
Lower White River	--	1,112,700	--
Cache Basin, Ark.	15,360	--	--
Channel improvement	19,838,355	23,439,894	--
West Tennessee tributaries	3,345,044	--	--
West Kentucky tributaries	6,796	--	--
Inspection of completed works	--	85,767	--
Mapping	--	104,993	--
Recreation facilities-completed projects	--	--	--
Reelfoot Lake No. 9, TN-KY	35,403	--	--
Mud Lake, TN	9,032	--	--
Subtotal	33,588,646	31,830,972	1,702,330
Vicksburg District:			
General investigations	--	--	2,210,347
Advance engineering and design	24,133	--	--
Mississippi River levees	3,581,480	365,173	--
Lower Arkansas River	--	113,921	--
Tensas Basin	18,794,173	1,512,276	--
Yazoo Basin	21,583,860	16,065,520	--
Channel improvement	20,417,588	11,272,589	--
Mapping	--	168,321	--
Inspection of completed works	--	59,105	--
Streambank erosion control	(15,991)	--	--
Tensas National Wildlife Refuge, LA	65,538	--	--
Lower Red River—South Bank Red River Levee	17,991	14,217	--
Subtotal	64,468,508	29,571,122	2,210,347
New Orleans District:			
General investigations	--	--	670,537
Advance engineering and design	71,533	--	--
Mississippi River levees	12,462,063	3,698,280	--
Lower Red River	2,568	788	--
Old River	34,047,117	6,192,267	--
Bayou Cocodrie and tributaries	93,034	67,659	--
Atchafalaya Basin	20,039,136	5,194,145	--
Channel improvement	38,361,287	10,976,835	--
Bonnet Carré	--	707,730	--
Teche-Vermilion Basin water supply	1,077,659	--	--
Inspection of completed works	--	136,875	--
Mapping	--	102,925	--
Major Rehabilitation Old River	--	(18,385)	--
Subtotal	106,154,447	27,059,119	670,537
Total Federal Funds	204,211,601	90,714,202	4,583,214

TABLE 42-R (Continued) COSTS DURING FISCAL YEAR 1983

Item	Construction	Maintenance	Other
CONTRIBUTED FUNDS			
Memphis District:			
Lake Neark AR, Recreation Facility	296,065	--	--
New Orleans District:			
Old River	--	51,592	--
Mississippi River Levees	--	--	--
Teche-Vermilion Basin	--	--	--
Total Contributed Funds	296,065	51,592	--
Grand Total, Federal and Contributed Funds	204,507,666	90,765,794	4,583,214

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TABLE 42-S STATEMENTS OF ALLOTMENTS AND ACCRUED EXPENDITURES FOR FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES, FROM MAY 15, 1928, THROUGH SEP. 30, 1983

District or Installation and Class of Work	Allotments	Accrued Expenditures	Unexpended Balance Sep. 30,1983
ALLOTMENTS AND ACCRUED EXPENDITURES CHARGEABLE AGAINST FLOOD CONTROL ACT LIMITATIONS:			
COMPLETED WORKS:			
Waterways Experiment Station	$ 874,000	$ 874,000	$ --
Office, Chief of Engineers	19,158	19,158	--
Rock Island District:			
S. G. & O. prior to Aug. 18, 1941	14,010	14,010	--
St. Louis District:			
S. G. & O. prior to Aug. 18, 1941	169,352	169,352	--
Subtotal	1,076,520	1,076,520	--
Memphis District:			
Des Arc, Ark.	178,925	178,925	--
Contraction works	8,692,791	8,692,791	--
DeValls Bluff, Ark.	231,215	231,215	--
Mapping	1,450,337	1,450,337	--
Memphis Harbor	18,736,432	18,736,432	--
New Madrid Floodway	6,521,543	6,521,543	--
Wolf River and tributaries	1,723,620	1,723,620	--
Roads on levees (Mississippi River levees)	12,426	12,426	--
S. G. & O. prior to Aug. 18, 1941	1,998,766	1,998,766	--
Subtotal	39,546,055	39,546,055	--
Vicksburg District:			
Boeuf Basin levees	2,764,605	2,764,605	--
Channel realignment, Arkansas River	125,074	125,074	--
Contraction works	1,972,183	1,972,183	--
Eudora Floodway	826,235	826,235	--
Vicksburg Harbor	4,664,515	4,664,515	--
Greenville Harbor	2,864,516	2,864,516	--
Grants Canal (Mississippi River levees)	7,070	7,070	--
Mapping	1,531,021	1,531,021	--
Jonesville, LA	172,950	172,950	--
Roads on levees	105,660	105,660	--
S. G. & O. prior to Aug. 18, 1941	2,350,201	2,350,201	--
Subtotal	17,384,030	17,384,030	--
New Orleans District:			
Baton Rouge Harbor, LA	699,185	699,185	--
Atchafalaya River and Basin, LA	3,375,492	3,375,492	--
Bonnet Carré Spillway, LA	14,212,198	14,212,198	--
Contraction works	1,258,916	1,258,916	--
Mapping	1,112,967	1,112,967	--
Roads on levees	540,838	540,838	--
S. G. & O. prior to Aug. 18, 1941	2,701,566	2,701,566	--
Wax Lake Outlet and Charenton Canal	10,098,817	10,098,817	--
Morganza Floodway and structure	35,992,117	35,992,117	--
Lake Pontchartrain	5,513,110	5,513,110	--
Atchafalaya Basin, rights-of-way and flowage, Bayou des Glaises setback	387,917	387,917	--
Subtotal	75,893,123	75,893,123	--
All other completed items:			
Surveys under Sec. 10, Flood Control Act of 1928	4,995,215	4,995,215	--
Impounded savings	1,593,097	1,593,097	--
Plant transferred to revolving fund	24,924,578	24,924,578	--
OCE (portion of allotment transferred to revolving fund, Washington Dist.)	19,882	19,882	--
Subtotal	31,532,772	31,532,772	--
Total completed works	165,432,500	165,432,500	--

TABLE 42-S (Continued) STATEMENTS OF ALLOTMENTS AND ACCRUED EXPENDITURES FOR FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES, FROM MAY 15, 1928, THROUGH SEP. 30, 1983

District or Installation and Class of Work	Allotments	Accrued Expenditures	Unexpended Balance Sep. 30,1983
UNCOMPLETED WORKS:			
Rock Island District:			
Levees under Sec. 6, Flood Control Act of 1928	579,462	579,462	--
St. Louis District:			
Levees under Sec. 6, Flood Control Act of 1928	1,897,980	1,897,980	--
Subtotal	2,477,442	2,477,442	--
Memphis District:			
Mississippi River levees			
Mississippi River levees	147,251,354	144,877,579	2,373,775
New Madrid	98,000	98,000	--
Channel improvement:			
Revetments	310,284,307	306,984,679	3,299,629
Dredging	57,367,400	57,189,565	177,835
Dikes	98,990,000	95,769,273	3,220,727
Reelfoot Lake	439,434	439,434	--
Reelfoot Lake, Lake No. 9, TN-KY	7,865,000	7,827,023	37,977
St. Francis Basin:			
Wappapello Lake	9,019,908	9,019,908	--
St. Francis River and tributaries	174,253,382	173,841,523	411,859
Big Slough and Mayo ditch	965,429	965,429	--
Little River drainage	44,462,892	43,349,781	1,113,111
Lower White River:			
Clarendon Levee	496,715	496,715	--
Augusta to Clarendon, AR	1,779,846	1,779,846	--
White River backwater levee, AR	10,624,501	10,624,501	--
Levees under Sec. 6, Flood Control Act of 1928	108,651	108,651	--
West Tennessee tributaries	28,040,900	27,085,620	955,280
Cache Basin, AR	7,910,000	7,887,319	22,681
West Kentucky tributaries	990,000	973,144	16,856
Mud Lake Pumping Station, TN	157,000	58,603	98,397
Subtotal	901,104,719	889,376,593	11,728,126
Vicksburg Distict:			
Mississippi River levees (excludes Grants Canal, $7,070, shown under completed works)	179,238,990	177,519,993	1,718,997
Lower Arkansas River:			
North Bank	7,049,414	7,049,414	--
South Bank	15,676,286	15,676,286	--
Tensas Basin:			
Lake Chicot pumping plant	72,272,800	70,382,633	1,890,167
Boeuf and Tensas Rivers, etc.	39,965,200	39,791,060	174,140
Red River Backwater:			
Red River backwater levee, LA	48,506,646	46,995,125	1,511,521
Tensas, Cocodrie pumping plant	39,969,300	27,350,486	12,618,814
Lower Red River South Bank Red River Levees	438,400	17,727	420,673
Tensas National Wildlife Refuge, LA	9,900,000	4,831,530	5,068,470
Channel improvement:			
Revetments	318,666,065	304,787,869	13,878,197
Dredging	23,549,260	23,549,260	--
Dikes	70,206,040	69,043,336	1,162,704
Levees under Sec. 6, Flood Control Act of 1928	958,175	958,175	--
Yazoo Basin:			
Sardis Lake	26,672,600	26,459,069	213,532
Enid Lake	21,307,400	21,287,587	19,813
Arkabutla Lake	16,040,700	16,015,596	25,104
Grenada Lake	45,240,900	44,813,185	427,715
Greenwood	9,480,000	8,325,510	1,154,490
Belzoni	316,656	316,656	--
Yazoo City	2,205,611	2,205,611	--

TABLE 42-S (Continued) STATEMENTS OF ALLOTMENTS AND ACCRUED EXPENDITURES FOR FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES, FROM MAY 15, 1928, THROUGH SEP. 30, 1983

District or Installation and Class of Work	Allotments	Accrued Expenditures	Unexpended Balance Sep. 30,1983
Yazoo Basin: (Continued)			
Will M. Whittington auxiliary channel	10,950,966	10,950,966	--
Big Sunflower, etc.	32,010,300	29,084,931	2,925,369
Main Stem	26,583,000	26,384,417	198,583
Upper Yazoo Projects	39,727,006	35,062,418	4,664,588
Yazoo Basin—Tributaries			
Tributaries (Except Ascal-Tippo-Opossum Bayous)	55,531,310	52,334,558	3,196,752
Tributaries—Bank Stabilization	612,484	612,484	--
Ascalmore-Tippo-Opossum Bayous	17,293,200	13,731,533	3,561,667
Yazoo Basin Backwater			
Yazoo Backwater (Except Muddy Bayou)	51,209,200	51,051,294	157,906
Muddy Bayou	5,145,200	5,145,200	--
Steambank Erosion Control, Eval. and Demo.	14,793,000	14,747,512	45,488
Subtotal	1,201,516,109	1,146,481,419	55,034,690
New Orleans District:			
Teche-Vermilion Basin Water Supply	33,749,000	33,425,320	323,680
Bayou Cocodrie and Tributaries	4,289,008	4,250,374	38,634
Channel improvement:			
Dredging	35,945,266	35,945,266	--
Revetments	423,056,117	408,149,360	14,906,757
Lower Red River (South Bank Levees)	18,056,600	18,056,600	--
Levees Under Sec. 6, Flood Control Act of 1928	200,680	200,680	
Mississippi River Levees	171,596,000	170,077,199	1,518,801
Atachafalaya Basin:			
Atachafalaya Basin Floodway	446,314,537	433,863,502	12,451,035
Atachafalaya River Navigation	303,463	303,463	--
Old River	137,716,000	135,028,126	2,687,874
Subtotal	1,271,226,671	1,239,299,890	31,926,781
TOTAL UNCOMPLETED WORKS	3,376,324,941	3,277,635,344	98,689,597
ADVANCE ENGINEERING AND DESIGN (CONSTRUCTION)			
Memphis District:			
L'Anguille River Basin, AR	150,000	150,000	--
Reelfoot Lake, Lake No. 9	30,000	30,000	--
Cache River	420,000	420,000	--
Big Creek and Tributaries, Lower White River	365,000	364,339	--
Clarendon Levee, Lower White River	65,000	65,000	--
West Kentucky Tributaries	175,000	175,000	--
Mud Lake Pumping Station, TN	350,000	350,000	--
Harris Fork Creek, KY & TN	540,000	540,000	--
Subtotal	2,095,000	2,095,000	--
Vicksburg District:			
Yazoo Basin, Big Sunflower River, Steele Bayou	29,700	29,700	--
Tensas - National Wildlife Refuge, LA	200,000	200,000	--
Subtotal	229,700	229,700	--
New Orleans District:			
Mississippi Delta Region	69,753	69,753	--
Teche Vermilion Basin-Water Supply	1,109,000	1,109,000	--
East Rapides & S. Central Avoyelles Parishes	965,247	965,247	--
Subtotal	2,144,000	2,144,000	--
TOTAL ADVANCE ENGINEERING AND DESIGN	4,468,700	4,468,700	--
TOTAL COMPLETED WORKS, UNCOMPLETED WORKS AND ADVANCE ENGINEERING AND DESIGN	3,546,226,141	3,447,536,544	98,689,597

TABLE 42-S (Continued) STATEMENTS OF ALLOTMENTS AND ACCRUED EXPENDITURES FOR FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES, FROM MAY 15, 1928, THROUGH SEP. 30, 1983

District or Installation and Class of Work	Allotments	Accrued Expenditures	Unexpended Balance Sep. 30,1983
RECREATION FACILITIES—COMPLETED PROJECTS			
Eight-Year Program Funds			
St. Louis District:			
Wappapello Lake, MO	2,255,300	1,697,656	557,644
Wappapello Lake, MO, Rockwood Landing	203,286	203,286	--
Subtotal	2,458,586	1,900,942	557,644
Vicksburg District:			
Sardis Lake	1,584,339	1,584,339	--
Enid Lake	2,268,209	2,268,209	--
Arkabutla Lake	2,189,280	2,189,280	--
Grenada Lake	1,631,281	1,631,281	--
Subtotal	7,673,109	7,673,109	--
Total Eight-Year Program Funds	10,131,695	9,574,051	557,644
Total chargeable against Flood Control Act Limitations excluding flood control emergencies	3,556,357,836	3,457,110,595	99,247,241
Total maintenance since Aug. 18, 1941	1,290,048,855	1,264,696,107	25,352,748
Total rehabilitation	31,113,000	31,113,000	--
Total flood control emergencies	14,900,300	14,900,300	--
Total general investigations	42,217,881	41,051,643	1,166,238
Total flood control, MR&T appropriatio	4,934,637,872	4,808,871,645	125,766,227
Appropriations in addition to flood control, M.			
Other appropriations itemized in footnote (1), pp. 2068-69, Annual Report for 1953	32,068,909	32,068,909	--
Grand total appropriated to Sep. 30, 1983	4,966,706,781	4,840,940,554	125,766,227

Note: Preauthorization study costs chargeable to the MR&T authorization have been transferred to completed work. Costs not chargeable have been exluded from this report.

TABLE 42-T STATEMENTS OF EXPENDITURES FOR LEVEES BY STATE AND LOCAL ORGANIZATIONS THROUGH DEC. 31, 1983

Engineer District	Expenditures
Rock Island	$ 11,159,551
St. Louis	67,700,481
Memphis	218,941,099
Vicksburg	113,576,836
New Orleans	476,652,173
Total	$888,030,140

TABLE 42-U COST AND FINANCIAL STATEMENT[1]

Project	Funding	FY 80	FY 81	FY 82	FY 83	Total Sep. 30, 1983
Mississippi River and tributaries (Regular Funds)[1]	General investigations:					
	Alloted	3,090,000	3,720,000	5,315,000	4,271,000	42,217,881[2]
	Cost	3,185,080	4,101,537	4,158,386	4,583,214	41,051,644
	Construction (includes advance engineering and design):					
	Alloted	134,796,000	140,644,000	179,793,000	289,370,000	3,505,837,422
	Cost	161,368,655	162,592,395	176,047,889	204,211,601	3,407,091,647
	Maintenance					
	Alloted	67,837,000	79,794,000	78,290,000	109,548,000	1,340,427,406
	Cost	71,662,120	77,674,822	79,934,108	90,732,587	1,315,074,654
	Rehabilitations					
	Alloted	4,500,000	8,150,000	600,000	137,000	31,113,000
	Cost	5,424,874	13,151,406	339,193	18,385	31,113,000
	Flood control emergencies (Maintenance):					
	Alloted	--	--	--	--	14,885,922
	Cost	--	--	--	--	14,885,922
(Contributed Funds)	New Work:					
	Contributed	193,871	53,201	40,736	393,600	9,199,166
	Cost	198,812	1,876	81,201	296,065	9,085,933
	Maintenance					
	Contributed	427,594	54,930	169,852	125,424	1,756,840
	Cost	316,015	145,254	145,008	51,592	1,626,511

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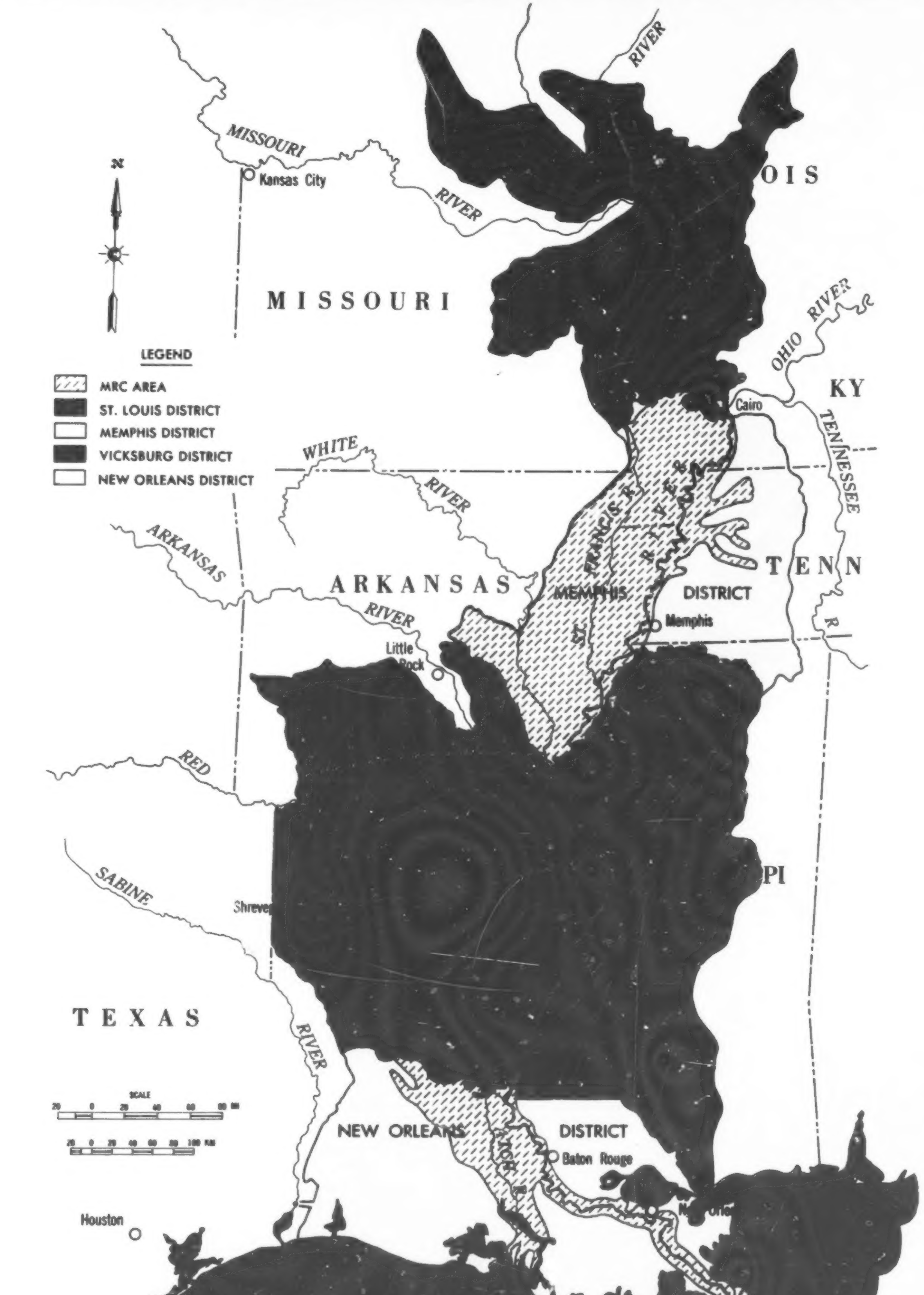
[1] Appropriations were as follows:

Appropriations chargeable against Flood Control Act authorizations: Flood Control, MR&T except for emergencies (excludes Maintenance allotments Aug. 18, 1941, through Sep. 30, 1983):		
Net total allotted for works under Mississippi River Commission:	$3,545,806,370	
Eight-Year Program Funds, Construction General:	10,131,695	
Surveys under Sec. 10, Flood Control Act of 1928 (not under MRC):	4,995,215	
Transferred to revolving fund:	24,944,460	
Impounded savings:	1,593,097	$3,587,470,837
Flood control emergencies:		
Net total alloted:	14,885,922	
Impounded savings:	14,378	14,900,300
Additional funds not chargeable against Flood Control Act authorizations:		
Appropriations for Flood Control, MR&T, except for flood control emergencies:		
General investigations:	42,217,881	
Maintenance allotments Aug. 18, 1941, through Sep. 30, 1983	1,290,048,885	1,332,266,736
Appropriations in addition to appropriations for Flood Control, MR&T (itemized in footnote (1), pp. 2068-69, Annual Report for 1953):		32,068,909
Budgetary and OCE Reserves.		
Grand total:		4,966,706,782
Reconciliation of appropriations and allotments:		
Total allotted to Sep. 30, 1983	4,935,159,632	
Transferred to revolving fund:	24,944,460	
Surveys under Sec. 10, Flood Control Act of 1928 (not under MRC):	4,995,215	
Impounded savings withdrawn by Chief of Engineers:	1,607,475	
Budgetary and OCE Reserves:	4,966,706,782	
Total Appropriations to Sep. 30, 1983:		

Appropriations for past four reporting periods were as follows: FY 80: $210,223,000; FY 81: $232,308,000; FY 82: $262,798,000; and FY 83: $403,052,000.

[2] Totals for General Investigations include four projects transferred from Construction totals per DAEN-CWB-W, Aug. 4, 78, teletype.



LOWER MISSISSIPPI VALLEY DIVISION
AND
MISSISSIPPI RIVER COMMISSION